# Landscape Manual

### CITY OF CARLSBAD POLICIES AND REQUIREMENTS



Adopted by the City Council on November 13, 1990.

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# Introduction.



- A. Intent
- B. Application
- C. Manual Format
- D. Conflicts With Other Documents
- E. Minimum Requirements
- F. Variances

#### A. INTENT

Landscaping and site design help produce character and visual image for Carlsbad, creating an enduring impression of the community.

The Manual will aid applicants and their landscape architects in understanding the City's policies toward landscaping. It is a comprehensive document listing programs, policies, and requirements relating to landscaping within the City.

#### B. APPLICATION

This document applies to all public and private developments requiring discretionary permits or submittal of landscape plans for development permits including but not limited to the following projects:

- a. private development
- b. public parks and recreational facilites
- c. maintenance districts
- d. street medians

#### C. MANUAL FORMAT

The Manual is broken down into 4 distinct areas:

- Submittals (Section II and III)
- Policies and Requirements (Section IV)
- Installation, Bonding and Maintenance Requirements (Section V)
- Appendix

The SUBMITTALS sections tell the applicant:

- 1. What types of submittals are required.
- 2. What the intent of requiring the submittal is.
- 3. Who shall prepare the submittal.
- 4. What the graphic format shall be.
- 5. What the contents shall be.

The POLICIES AND REQUIREMENTS sections tell the applicant.

- 1. What the **policies** are of the City of Carlsbad related to different areas of landscape design.
- 2. What other **related sections** of the Manual apply.
- 3. What are the specific **requirements** that relate to the different areas of landscape design.

#### D. INTER-RELATIONSHIP

The policies and requirements of the different sections may be inter-related, that is they may apply to more than one section although only stated once.

For example, one of the policy statements found in the Water Conservation

### INTRODUCTION (cont)

Policies and Requirements section states "Carlsbad is in a naturally semi-arid region. The landscape ethic should be towards designing and maintaining landscape systems compatible with the natural environment." This policy also applies to all other sections as well.

As a second example, the requirement that "pressure regulating device shall be used where the static pressure at the point of connection exceeds 80 pounds per square inch" is found in the General Irrigation Policies and Requirements. However, this requirement also pertains to the Erosion Control/Slope Revegetation and the Streetscape Program sections where applicable.

Therefore, the users of this manual must pay close attention to the "Other Applicable Sections" paragraph at the beginning of each section as well as cross references throughout the text. The "checklist" described next will also help in cross referencing.

#### CHECKLIST

A "checklist" is found in Appendix H which is designed as a quick check for the plan preparer to see that they have addressed pertinent requirements related to irrigation, planting, etc.

For example, all requirements relating to irrigation, whether they come from the "Slope Revegetation/Erosion Control" section or the "Water Conservation" section, will be condensed and listed under one heading, "Irrigation Requirements." The page number(s) where the requirement can be found within the manual (in its context) are listed next to the requirement.

The checklist, therefore, has a dual function of cross-referencing requirements from different sections of the manual and aiding the plan preparer in making sure they have addressed the important requirements prior to submitting the landscape plans for plan check.

The checklist must be signed and submitted with the plans.

#### CONFLICTS WITH OTHER DOCUMENTS

If conflicts arise between this manual and other governing documents, the most stringent and/or recent shall apply.

Related to landscaping standards for public improvements, the following order of precedents shall be:

- Landscape Manual
- 2. City of Carlsbad Standards
- 3. Standard Specifications for Public Works Construction ("Green Book")

#### G. MINIMUM REQUIREMENTS

The policies and requirements within this manual are minimum standards. Projects are encouraged to exceed these standards whenever appropriate.

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#### VARIANCES AND ALTERNATIVE COMPLIANCE

Variances may be granted from the policies and requirements of this manual by the City from time to time if undue hardships or special circumstances make the variance request necessary.

Where the literal interpretation and enforcement of the requirements of this document would result in practical difficulties, environmental degradation, or results inconsistent with the general purpose of this document, formal written request to vary from these requirements shall be made to the Planning Director, City Engineer, or Parks and Recreation Director. The City department to which this written request is made will depend on the type of variance requested and which department is responsible to oversee the requirement for which the variance is being sought.

Before any variance is granted, the following findings must be made:

- That there are extraordinary or unusual circumstances or conditions applicable to the project necessitating a variance from the requirements of this document.
- 2. That the proposed variance will not be detrimental to the health, safety, and general welfare of persons residing, working, playing, or traveling through the area and will not adversely impact other property in the vicinity.
- 3. That the proposed variance meets the intent of the policies and requirements of this document.

The written request for variance shall describe the variance and justification for such variance and address how each of the findings above can be made.

If, in the opinion of the Planning Director, City Engineer, or Parks and Recreation Director, the variance is justified and the findings can be made to support the variance, the variance may be issued by the applicable City department without a public hearing.

City may decide, at their discretion, to put the variance before the Planning Commission and/or Parks and Recreation Commission for public hearing if it is felt that the variance is of such a nature that Commission and public review is warranted.

# Preliminary Submittals



- A. Landscape Concept Plan
  - 1. Application
  - 2. Intent
  - 3. Preparer
  - 4. Format
  - 5. Contents
- B. Water Conservation Plan
  - 1. Application
  - 2. Intent
  - 3. Preparer
  - 4. Format
  - 5. Contents
- C. Fire Protection Plan
  - 1. Application
  - 2. Intent
  - 3. Preparer
  - 4 Format
  - 5. Contents



Preliminary Submittals

#### LANDSCAPE CONCEPT PLAN

#### A.1 APPLICATION

Projects requiring discretionary approvals or as otherwise required by the City. These plans are to be submitted along with other required plans and documents at the time of application for project approval.

#### A.2 INTENT

- A.2-1 This plan will provide the City with a clear impression of how a proposed development will look, work, and be maintained.
- A.2-2 The plan will depict in a general way how the proposed project will conform to the policies and requirements of the following sections of this document.

#### A.3 PREPARER

- A.3-1 Plans shall be prepared by a landscape architect registered in the State of California or as specified in A.3-2.
- A.3-2 Plans may also be prepared by a civil engineer, architect, or contractor licensed by the State of California to the extent his or her license allows.

#### A.4 FORMAT

- A.4-1 PLAN SIZE
- A.4-2 Size may be variable as long as the presentation clearly portrays the design concepts.
- A.4-3 Special areas may require enlargements as requested by the City.
- A.4-4 After the project has been approved by the City, the applicant must provide the City with the approved plan on mylar [24" x 36" sheet(s)] or microfilm (as specified by the City).

#### A.5 CONTENTS

To include but not be limited to:

- A.5-1 GENERAL
  - a. existing conditions (grades, plants, etc.)
  - b. existing improvements
  - c. property lines and existing easements
  - d. project address and vicinity map
  - e. north arrow and scale
  - f. proposed grading consistent with grading plans for the project
  - g. proposed planting (see A.5-2)
  - h. proposed recreational areas, outdoor eating areas, and/or trails

II.A

### LANDSCAPE CONCEPT PLAN

(cont)

A.5-2 PLA
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A.5-2.1 Identification and general location of proposed plantings on plan.

#### A.5-2.2 A plant palette list indicating:

- a. tree types and quantities
- b. shrub types and quantities (approximate)
- c. ground cover types
- d. proposed plant sizes (either by number or % of total quantity)

A.5-2.3 Generally identify all existing woody plant material to be removed or retained. Trees over 12" in caliper diameter shall be identified on the plan individually as to caliper size and type and labeled to be retained or removed.

#### A.5-3 PLANTING ZONES

All planting areas shall be outlined as one of the four planting zones below and described in Appendix A.

ZONE ONE ZONE TWO

ONE Lush TWO Refined

**ZONE THREE** 

Naturalizing/Transitional

ZONE FOUR

Native

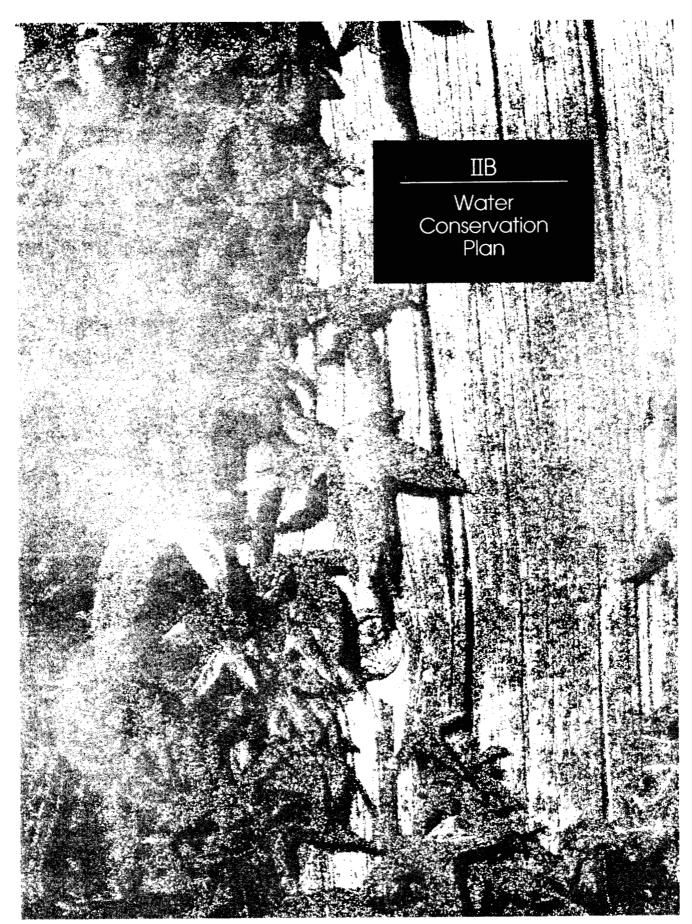
#### A.5-4 PERCENTAGES

Indicate the following percentages:

- a. percent of the total site used for landscaping
- b. percent of the landscaped area (as defined in Appendix G) of each planting zone as described in Section A.5-3 and Appendix A.

#### A.5-5 MAINTENANCE AREAS

Outline the areas of landscape maintenance responsibilities (private, common area/homeowners' association, City, etc).



Preliminary Submittals

#### WATER CONSERVATION PLAN

#### B.1 APPLICATION

Projects requiring discretionary approvals or as required by the City. Submit in conjunction with the Landscape Concept Plan.

#### B.2 INTENT

- B.2-1 This Plan will demonstrate to the City how the proposed development will use all practical means available to conserve water in the landscape.
- B.2-2 The Plan will depict, in a general way, how the proposed project will conform to the policies and requirements of the following sections of this document, particularly the Water Conservation Policies and Requirement (Section IV.C).

#### B.3 PREPARER

- B.3-1 Plans shall be prepared by a landscape architect registered in the State of California or as specified in B.3-2.
- B.3-2 Plans may also be prepared by a licensed civil engineer, architect, or contractor registered in the State of California to the extent that his or her license allows.

#### B.4 FORMAT

- B.4-1 PLAN SIZE
- B.4-1.1 Prepared on a 50% screened copy of the Landscape Concept Plan.
- B.4-1.2 Special areas may require enlargements as required by the City.
- B.4-1.3 After the project has been approved by the City, the applicant must provide the City with the approved plan on mylar (24" x 36") or microfilm (as specified by the City).

#### B.5 CONTENTS

To include but not be limited to:

- B.5-1 Extent of Planting Zone 1 ("Lush") Indicate percentage of Zone 1 planting (per Appendix A) of the total landscaped area (as defined in Appendix G). Provide justification for the appropriateness of where Zone 1 plants are used in terms of water conservation. For example, are Zone 1 plantings in areas of shade where they will use less water and/or has the soil been suitably amended so as to retain relatively greater moisture?
- B.5-2 Proposed turf areas. (See limitations in IV C.3-4.2) Give percentage of turf of the total landscaped area (as defined in Section IV C.3-4.2-3 and Appendix G).
- B.5-3 Accommodations for reclaimed water (existing or future) and outline planting areas proposed to use reclaimed water.
- B.5-4 Written description of water conservation features including addressing xeriscape principles (see Appendix B) within the project.



#### C.1 APPLICATION

A Fire Suppression Plan is required when a proposed project contains or is bounded by hazardous native vegetation as determined by the Fire Chief.

The plan shall be submitted in conjunction with the Landscaped Concept Plan.

#### C.2 INTENT

- C.2-1 This plan will demonstrate how the proposed project will mitigate potential fire hazards.
- C.2-2 The plan shall show in a general way how the proposed project will conform to the policies and requirements of this document, particularly the Fire Protection Program, Policies and Requirements (Section IV.F).

#### C.3 PREPARER

- C.3-1 Plans shall be prepared by a landscape architect registered in the State of California, and the plans shall bear his or her registration number and name or as specified in D.3-2.
- C.3-2 Plans may also be prepared by a civil engineer, architect, or contractor licensed by the State of California to the extent his or her license allows.

#### C.4 FORMAT

- C.4-1 PLAN SIZE
- C.4-1.1 Prepared on a 50% screened copy of the Landscape Concept Plan or the information may be incorporated into the Landscape Concept Plan.
- C.4-1.2 Special areas may require enlargements as requested by the City.
- C.4-1.3 After the project has been approved by the City, the applicant must provide the City with the approved plan on mylar (24" x 36") or microfilm (as specified by the City).

#### C.5 CONTENTS

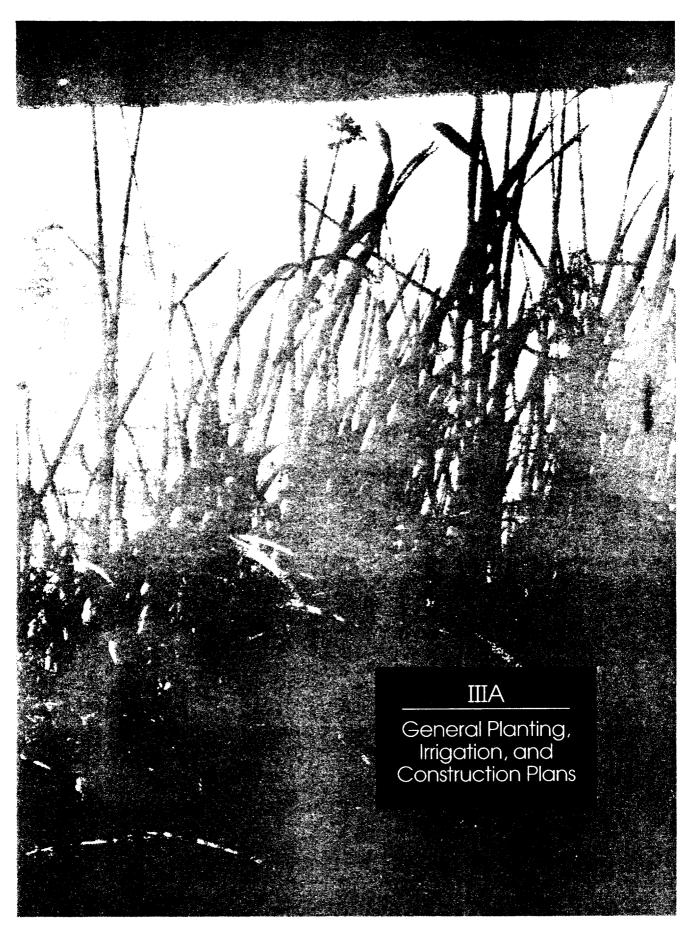
The Fire Suppression Plan shall consist of a written and graphic plan and sections illustrating the following:

- a. Fire hydrant locations
- b. Rear vard setbacks
- c. Fire control planting as outlined in Section IV.F.
- d. Emergency/maintenance access
- e. Maintenance responsibility and schedule of frequency
- f. Any other project modification to protect the development from fire hazards
- g. Street widths dimensioned

# Final Submittals



- A. General Planting, Irrigation, and Construction Plans
  - 1. Application
  - 2. Intent
  - 3. Preparer
  - 4. Format
  - 5. Planting Plans
  - 6. Irrigation Plans
  - 7. Construction Plans
- B. Slope Revegetation/ Erosion Control
  - 1. Application
  - 2. Intent
  - 3. Preparer
  - 4. Format
  - 5. Planting Plan
  - 6. Irrigation Plans



### III.A

### GENERAL PLANTING, IRRIGATION, AND CONSTRUCTION PLAN

#### A.1 APPLICATION

All projects that require final landscape plans to be submitted in conjunction with a grading or building permit or other permit or application.

#### A.2 INTENT

To translate the provisions set forth in any approved preliminary submittals related to the project and/or applicable policies and requirements of this manual into working documents for landscape construction.

#### A.3 PREPARER

- A.3-1 Plans shall be prepared by a landscape architect registered in the State of California, and the plans shall bear his or her registration number and name or as specified in A.3-2.
- A.3-2 Plans may be prepared by a civil engineer, architect, or contractor licensed by the State of California to the extent his or her license allows. Irrigation plans may be prepared by an irrigation consultant. However, plans must include the stamp of the licensed landscape architect or other licensed professional responsible for the work.
- A.3-3 The plans shall contain the following statement to be located on the cover sheet or first sheet (if no cover sheet is provided).

I HEREBY DECLARE THAT I AM THE LICENSED DESIGNER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CARLSBAD IS CONFINED TO REVIEW ONLY AND DOES NOT RELIEVE ME, AS THE LICENSED DESIGNER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

THESE PLANS HAVE BEEN PREPARED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED LANDSCAPE CONCEPT PLAN, WATER CONSERVATION PLAN, FIRE PROTECTION PLAN, AND ALL CONDITIONS OF APPROVAL RELATED TO LANDSCAPING.

BY:		DATE:	
	Preparer		

#### A.4 FORMAT

- A.4-1 PLAN SIZE
- A.4-1.1 24" x 36" on standard City of Carlsbad "D Sheets" with the Planning Department title block.
- A.4-1.2 After final approval of plans by the City, the applicant shall provide a complete set of mylars to the City. Mylar photo process copies of the original drawings are satisfactory if signatures on them are original.

III.A

## GENERAL PLANTING, IRRIGATION, AND CONSTRUCTION PLAN

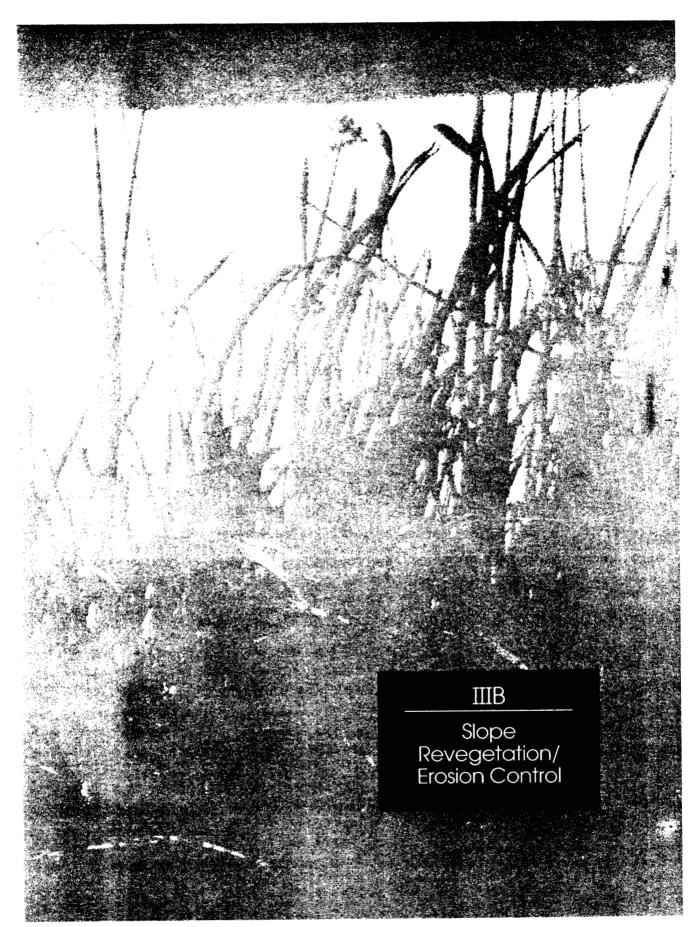
A.4-2	SCALE
A.4-2.1	Plan scale no smaller than 1"= 20' unless approved by the City.
A.4-2.2	Hand lettering shall be no smaller than 1/8" in height.
A.4-2.3	Machine lettering shall be a minimum of .10" in height.
A.5	CONTENTS  To include but not be limited to:
A.5-1	COVER SHEET Shall include (but not be limited to):  a. project title b. vicinity map c. location map d. for projects with multiple sheets, provide a reduced map of the entire project showing portion of project covered on each sheet. e. sheet index
A.5-2	GENERAL CONTENTS  Each sheet shall contain (but not be limited to) the following items:  a. bar scale b. north arrow c. graphic key if applicable (see "Graphic Key" below)
A.5-3	GRAPHIC KEY For multiple sheet projects, each sheet shall provide a graphic key (reduced overall project map) indicating the portion of the project that each sheet covers.
A.5-4	PLANTING PLANS Shall include (but not be limited to):
A.5-4.1	Existing and proposed grades and drainage elements.
A.5-4.2	All outdoor elements shown on the approved Landscape Concept Plan including but not limited to recreational areas, outdoor eating areas, and trails.
A.5-4.3	Location and spacing of all plants.
A.5-4.4	Size and quantities of all plants.
A.5-4.5	Seed mix information including but not limited to:  a. rate b. mix c. mulch d. binder e. fertilization f. inoculation
A.5-4.6	Planting details.

A.5-4.7

General planting notes.

# GENERAL PLANTING, IRRIGATION, AND CONSTRUCTION PLAN

A.5-4.8	Specifications.
A.5-5	IRRIGATION PLANS To include but not be limited to:
A.5-5.1	Graphic indication of all components in the systems.
A.5-5.2	A legend explaining all symbols and stating the manufacturer, precipitation rate, g.p.m.'s, radii of each head type and detail reference call out as well as any pertinent information about equipment used.
A.5-5.3	All systems shall have their equipment sized, their control valve size and station number given, and their gallon per minute stated. Pipe sizes shall be indicated numerically (i.e. $\frac{1}{2}$ ", $\frac{3}{4}$ ", etc.).
A.5-5.4	All water meters or other points of connection (P.O.C.), both temporary and permanent, shall be noted and sizes called out. Any temporary elements shall note intended time of use.
A.5-5.5	Main lines shall be clearly delineated outside the street right of way.
A.5-5.6	The static water pressure, at each P.O.C., shall be stated for each water meter.
A.5-5.7	Irrigation details.
A.5-5.8	General irrigation notes.
A.5-5.9	Specifications.
A.5-5.10	Pressure calculations for the lowest pressure (worst case) system for each point of connection shall be submitted with the plans.
A.5-5.11	Denote reclaimed water systems.
A.5-6	CONSTRUCTION PLANS
A.5-6.1	Plans for construction to include but not be limited to the following:  a. fountains/water features b. fences c. walls d. walks e. trellises f. signs g. landscape lighting
A.5-6.2	Construction details.
A.5-6.3	General construction notes.
A.5-6.4	Specifications,
A.5-6.5	If any aspect of the landscape construction (including but not limited to those items above) are shown on the architects' or engineers' plans, that information shall be indicated on the landscape plans and referenced as to plans and sheet numbers



#### III R

#### SLOPE REVEGETATION/EROSION CONTROL

#### B.1 APPLICATION

All projects that require final landscape plans to be submitted in conjunction with a grading permit or other permit or application.

#### B.2 INTENT

To translate the provisions set forth in any approved preliminary submittals related to the project and/or applicable policies and requirements of this manual into working documents for landscape construction.

#### B.3 PREPARER

- B.3-1 Plans shall be prepared by a landscape architect registered in the State of California, and the plans shall bear his or her registration number and name or as specified in B.3-2.
- B.3-2 Plans may be prepared by a civil engineer, architect, or contractor licensed by the State of California to the extent his or her license allows. Irrigation plans may be prepared by an irrigation consultant. However, plans must include the stamp of the licensed landscape architect or other licensed professional responsible for the work.
- B.3-3 The plans shall contain the following statement to be located on the cover sheet or first sheet (if no cover sheet is provided):

I HEREBY DECLARE THAT I AM THE LICENSED DESIGNER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CARLSBAD IS CONFINED TO REVIEW ONLY AND DOES NOT RELIEVE ME, AS THE LICENSED DESIGNER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

THESE PLANS HAVE BEEN PREPARED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED LANDSCAPE CONCEPT PLAN, WATER CONSERVATION PLAN, FIRE PROTECTION PLAN, AND ALL CONDITIONS OF APPROVAL RELATED TO LANDSCAPING.

BY:		DATE:	
	Prenarer		

#### B.4 FORMAT

- B.4-1 These plans may be included on the General Planting, Irrigation, and Construction Plans submittal.
- B.4-2 PLAN SIZE
- B.4-2.1 24" x 36" on standard City of Carlsbad mylar "D Sheets" with the Planning Department title block.

## SLOPE REVEGETATION/EROSION CONTROL

B.4-2.2	After final approval of plans by the City, the applicant shall provide the original set of mylars to the City. Mylar photo process copies of the original drawings are satisfactory if signatures on them are original.		
B.4-3	SCALE		
B.4-3.1	Plan scale no smaller than 1"= 40'.		
B.4-3.2	Planting and irrigation plans shall be drawn on $50\%$ screen of civil engineering grading plans.		
B.4-3.3	Hand lettering shall be no smaller than 1/8" in height.		
B.4-3.4	Machine lettering shall be a minimum of .10" in height.		
B.5	CONTENTS		
	To include but not be limited to:		
B.5-1	Cover sheet (provide same information as in Section III A)		
B.5-2	Graphic Key (provide same information as in Section III A)		
B.5-3	Planting Plans (provide same information as in Section III A)		
B.5-4	Irrigation Plans (provide same information as in Section III A)		

# Policies & Requirements.



- A. General Planting Policies and Requirements
  - 1. Policy Statements
  - 2. Other Applicable Sections
  - 3. Requirements
- B. General Irrigation Policies and Requirements
  - 1. Policy Statements
  - 2. Other Applicable Sections
  - 3. Requirements
- C. Water Conservation Policies and Requirements
  - 1. Policy Statements
  - 2. Other Applicable Sections
  - 3. Requirements
- D. Streetscape Program
  - 1. Policy Statements
  - 2. Other Applicable Sections
  - 3. Requirements
  - 4. Arterial Roads
- E. Slope Revegetation/ Erosion Control Policies and Requirements
  - 1. Policy Statements
  - 2. Other Applicable Sections
  - 3. Requirements
- F. Fire Protection Policies and Requirements
  - 1. Policy Statements
  - 2. Other Applicable Sections
  - 3. Requirements



Policies and Requirements

#### GENERAL PLANTING POLICIES AND REQUIREMENTS



A.1	POLICY STATEMENTS
A.1-1	Landscaping in general provides an important aspect of the quality of life in Carlsbad.
A.1-2	Landscaping shall be compatible and enhance the positive character of existing neighborhoods.
A.1-3	Landscaping consisting of ground cover, shrubs, and trees shall be used to screen elements of unsightliness and screen/soften new improvements.
A.1-4	Passive solar opportunities shall be protected from obstruction by landscaping.
A.1-5	Landscaping shall be used to provide privacy where appropriate.
A.1-6	Landscaping shall be used to accentuate and enhance architecture.
A.1-7	Landscaping shall be used to provide and enhance opportunities for outdoor recreation, relaxing, and eating.
A.1-8	Planting tends to reduce the amount of pollutants flowing through the storm drain system and into the lagoons and waterways that provide valuable aesthetic resources for the City. Reduction of pollutants flowing into lagoons and waterways is a water quality goal for the City.

#### OTHER APPLICABLE SECTIONS

Include but not limited to:

- Slope Revegetation/Erosion Control
- Streetscape Program Policies and Requirements
- Water Conservation Policies and Requirements
- Installation, Bonding, and Maintenance Requirements

#### A.3 REQUIREMENTS

- A.3-1 GENERAL
- A.3-1.1 The plans shall indicate positive surface drainage (2% grade in planting areas) away from structures and terminating in an approved drainage system.
- A.3-1.2 All trees (except on slopes 3:1 or steeper) shall be a minimum of 15 gallon size.
- A.3-1.3 50% of the shrubs (except on slopes 3:1 or steeper) shall be a minimum of 5 gallon size.
- A.3-1.4 Non-self supporting trees shall be staked or guyed (with flagging).



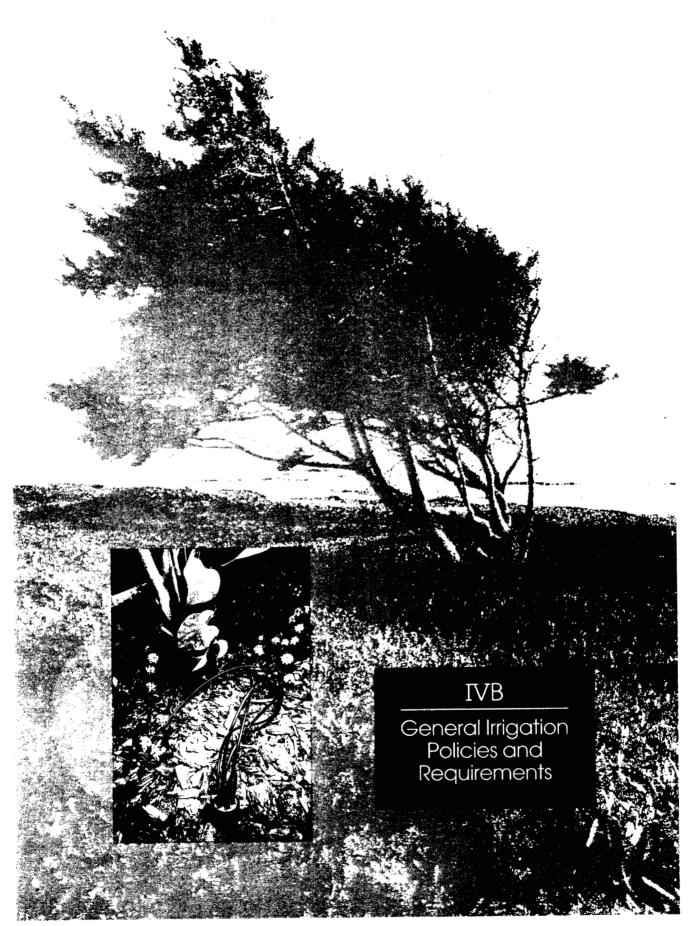
## GENERAL PLANTING POLICIES AND REQUIREMENTS

A.3-1.5	Spacing of plants shall allow for their size at maturity.
A.3-1.6	Trees with surface root systems and/or broad branch structures shall be planted only where sufficient space is available.
A.3-2	PARKING LOT AND PERIMETERS (See Appendix E.)
A.3-2.1	Trees shall be provided at the minimum rate of one per every four parking stalls. Trees pertaining to this requirement shall be located within the parking area, exclusive of parking lot setbacks.
A.3-2.2	Trees shall be planted a minimum of 2' from curbs.
A.3-2.3	Any lane of through traffic shall be separated from parking by a minimum 5' wide planting strip.
A.3-2.4	If a landscaped island is provided between double rows of parking, the island shall provide a minimum of $4$ of landscaping clear of vehicle overhangs.
A.3-2.5	Islands at the end of each parking row shall be used as planted area.
A.3-2.6	Each unenclosed parking facility shall provide a perimeter landscape strip of at least 8' on all sides. The perimeter landscaped strip may include any landscaped yard, setback, or landscaped area otherwise required within the property and sha be continuous except for required access points.
A.3-2.7	Planting or any combination of planting, mounding, and decorative walls shall be used to provide screening from adjacent property or streets of the parking area to a height of 3'.
A.3-2.8	At all vehicular access points, landscape elements shall be less than 30" in height (including plants measured at maturity).
A.3-3	EMPLOYEE EATING AREAS
A.3-3.1	For office/industrial projects that are required by the City to provide outdoor employee eating areas, these areas shall be shown on the landscape/landscape construction plans picturing all amenities including but not limited to site furniture, trash receptacles, and picnic tables.
A.3-4	SCREENING OF UNSIGHTLY ELEMENTS
	Plants shall be evergreen and spaced to provide $100\%$ screening within 2 years of installation.
A.3-5	MICROCLIMATE ENHANCEMENT
	Trees shall be located to shade south and west facing windows, walls, and outdoo living spaces except as limited by A.3-6 below.

## GENERAL PLANTING POLICIES AND REQUIREMENTS



A.3-6	SOLAR ACCESS
	Site design and landscaping shall provide solar access by adhering to the provisions in the State laws described under A.3-6.1 and A.3-6.2.
A.3-6.1	THE CALIFORNIA SOLAR RIGHTS ACT OF 1978 (AB3250)
A.3-6.1-1	Expressly adds the right of receiving sunlight upon or over land to the list of recognized easements, to be known as "Solar Easements."
A.3-6.1-2	Defines a "Solar Energy System" to include active or passive systems and describes the requirements of a solar easement.
A.3-6.2	THE CALIFORNIA SOLAR SHADE CONTROL ACT OF 1978 (AB2321)
	It provides that no adjacent property owner shall obstruct more than ten (10%) percent of a collector's sky space (with possible exemptions) at any time on any day of the year



Policies and Requirements

#### GENERAL IRRIGATION POLICIES AND REQUIREMENTS

B. î

POLICY STATEMENTS

#### Irrigation systems shall be designed to provide the optimum amount of water to B.1-1 the landscape for plant growth without causing soil erosion or runoff. Irrigation plans shall promote the industry standard for public safety in all aspects B.1-2 of the irrigation system. B.2 OTHER APPLICABLE SECTIONS Include but not limited to: Slope Revegetation/Erosion Control Streetscape Program Policies and Requirements Water Conservation Policies and Requirements Installation, Bonding, and Maintenance Requirements B.3 REQUIREMENTS B.3-1 POINT OF CONNECTION Water service (point of connection) installation for landscape shall be in place as required to coincide with planting timing specified in Section V. B.3-2 **BACKFLOW DEVICES** B.3-2.1 City approved backflow preventers to protect the potable water supply shall be installed adjacent to the point of connection and shall comply with all applicable health and safety codes and details as required by the City Utility and Maintenance Department. B.3-2.2 Backflow preventers shall be tested by a certified tester and results must be given to the owner and the Water District. Pipe between the meter and backflow preventer shall be "Schedule K Hard Copper." B.3-3 **PIPING** B.3-3.1 All pipe must be below grade except for risers and drip systems distribution tubing. PVC pressure mains shall be class 315 (2" or larger) or schedule 40 (1½" or B.3-3.2 smaller). B.3-3.3 PVC lateral line shall be class 200 except that - 1/2" shall be schedule 40. Minimum pipe coverage shall be as follows: B.3-3.4 a. pressure lines: • less than 3" in diameter - 18" cover • 3"- 5½" in diameter - 24" cover

• 6" or greater in diameter - 36" cover

b. lateral lines: 12" cover

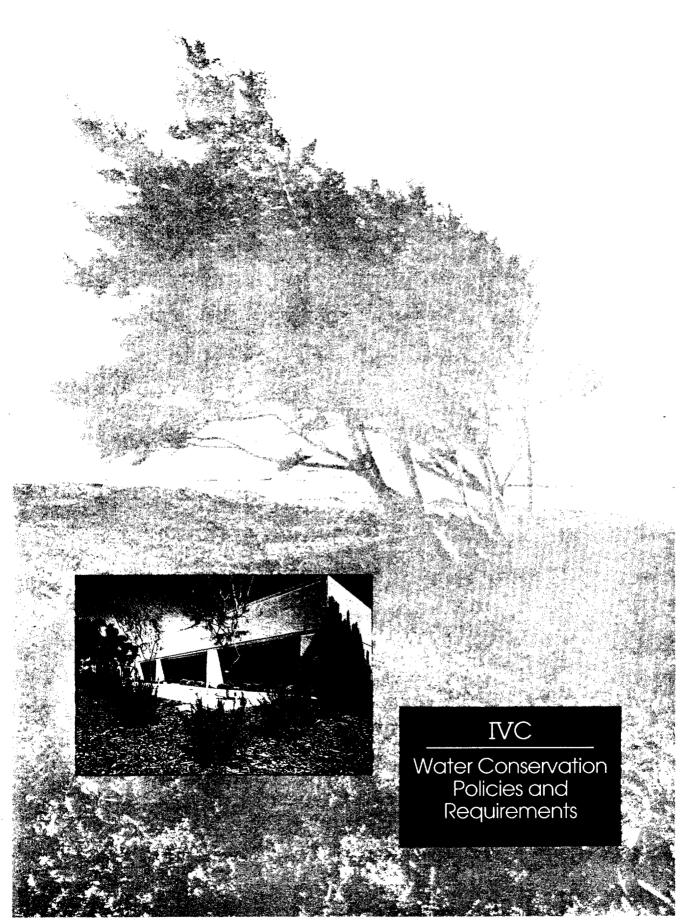
## GENERAL IRRIGATION POLICIES AND REQUIREMENTS

B.3-3.5	<ul> <li>c. sleeves under roads:</li> <li>6" or less in diameter - 36" cover</li> <li>greater than 6" in diameter - 48" cover</li> <li>d. sleeves under paving (non-roads): same as a. above</li> <li>Main lines shall be located outside street right of way.</li> </ul>
B.3-4	SLEEVING
B.3-4.1	Crossing of roads with irrigation pipe or wiring shall be avoided wherever possible If a crossing must be made, Schedule 80 PVC sleeves shall be installed at a minimum depth as described in B.3-3.4.
B.3-4.2	Sleeve sizes for irrigation lines shall be a minimum of two times the size of the line it serves.
B.3-4.3	Controller wires located under streets or other permanent improvements shall be installed in the <b>separate</b> PVC sleeves corresponding to type depth as specified in B.3-3.4, B.3-12.1, and B.3-12.2 above.
B.3-5	THRUST BLOCKS
	Thrust blocks consisting of a minimum of 1 cubic foot of concrete (2,000 psi) shall be installed around main lines 3" and above at elbows and at points of chang in direction.
B.3-6	CONTROLLER
	All irrigation systems shall be operated by automatic controller(s).
B.3-7	SHUT-OFF/ZONE CONTROL VALUES
	Ball valves shall be installed at the points of connection and throughout to divide the system into controllable units and shall be installed in valve boxes.
B.3-8	QUICK COUPLING VALVES
	Quick coupling valves shall be installed at a maximum of every 150' along the mainline and as needed to adequately service the area.
B.3-9	REMOTE CONTROL VALVES
	Where static water pressure exceeds 60 psi at the control valve, "pressure regulating type" remote control valves shall be provided within each circuit.
B.3-10	PRESSURE CONSTRAINTS
B.3-10.1	Pressure regulating device shall be used where the static pressure at the point of connection exceeds 80 pounds per square inch.
B.3-10.2	Pressure differential within the lateral piping circuits shall not exceed 20% of the designed operating pressure.

### GENERAL IRRIGATION POLICIES AND REQUIREMENTS



B.3-10.3	NOTE: The requirement for pressure regulators and pressure regulating valves may be waived if it can be shown through the pressure calculations that the system will operate more efficiently without them. For example, there may be elevation differences that eliminate excessive pressures or the irrigation heads being used may require more than 60 psi to operate as designed.
B.3-11	VELOCITY CONSTRAINTS
	Water velocities within any segment of pipe within the system shall not exceed 5' per second.
B.3-12	OVERSPRAY
	Irrigation systems shall be designed to minimize overspray onto adjacent property or non-planted areas.
B.3-13	CHECK VALVES
	Check valves shall be used to prevent low head drainage.
B.3-14	EQUIPMENT PROTECTION / SAFETY
B.3-14.1	Pop up heads shall be used within 10' of any pedestrian use.
B.3-14.2	Risers over 12" in height must be staked (staking shall be with galvanized pipe and clamps (2) or as approved by the City).



Policies and Requirements

### IV.C

## WATER CONSERVATION POLICIES AND REQUIREMENTS

C.1	POLICY STATEMENTS		
C.1-1	Carlsbad is in a naturally semi-arid region. The landscape ethic should be towards designing and maintaining landscape systems compatible with the natural environment.		
C.1-2	Current technology in the landscape industry related to water conservation in irrigation and planting can provide significant savings in the use of water.		
C.1-3	Landscape design shall include water conservation as a primary criteria.		
C.1-4	The principals of xeriscape shall be incorporated into design and maintenance of landscape.		
C.1-5	Plants known to have relatively high water needs shall be used sparingly and in situations where they will require the least amount of water.		
C.1-6	Public areas receiving the highest intensity of use, such as recreation areas and urban gathering spaces shall receive the highest priority for landscape water consumption.		
C.1-7	Alternative water sources (non-potable) shall be used and/or planned for landscape irrigation.		
C.1-8	In the event of a declared water shortage or mandatory water conservation measures, the project shall comply with all water allocation programs adopt State and local government.		

#### C.2 OTHER APPLICABLE SECTIONS

Include but not limited to:

- General Planting and Irrigation Policies and Requirements
- Slope Revegetation/Erosion Control Policies and Requirements
- Installation, Bonding, and Maintenance Requirements

#### C.3 REQUIREMENTS

- C.3-1 Model Homes -- Housing projects featuring a model home(s) shall designate at least one model as the "Water Conservation Landscape Model" or "Xeriscape Model." The landscaping of this unit(s) shall incorporate all the principals of xeriscape and shall have a sign program to describe to prospective buyers the water conserving elements and plant types utilized in the design. All model landscaping shall utilize the principals of xeriscape.
- C.3-2 SOIL CONDITIONING
- C.3-2.1 SOIL TEST
- C.3-2.2 After rough grading, soil samples shall be taken from enough locations on the site to represent an adequate cross section of conditions.

IV.C

## WATER CONSERVATION POLICIES AND REQUIREMENTS

(cont)

- C.3-2.3 Soil test shall be performed by a soil testing laboratory (pre-approved by the City). The test shall indicate but not be limited to the following:
  - a. organic matter content
  - b. N. P. K
  - c. pH
  - d. EC
  - e. soil texture (silt, clay, sand)
  - f. recommendations for amendments, leaching, and maintenance fertilizations.
- C.3-2.4 The results and recommendations of the soil testing laboratory shall be submitted to and approved by the City. The approved recommendations for amendments and backfill shall be incorporated into the landscape plans prior to the start of construction and shall become part of the approved plans.

Products specified by product name by the soil lab in the recommendations may be substituted with "or equal" products approved by the City.

#### C.3-3 MULCHING

- C.3-3.1 A minimum of 3" of organic mulch shall be added in non-turf planting areas with slopes less steep than 3:1 to cover the soil surface completely.
- C.3-3.2 Where adjacent to hard surfaces such as sidewalks curbs, or drives (where finish grade shall be 1" below the top of the hardsurface), the mulch thickness may taper down to 1" thick.
- C.3-3.3 Non-porous materials shall not be placed under the mulch.

#### C.3-4 PLANTING

- C.3-4.1 Plants with similar cultural requirements of exposure, soils, and water needs, etc. shall be grouped together and located on the project site in microclimates where they will require the least water for optimum growth and maintenance.
- C.3-4.2 TURF LIMITATIONS: turf areas shall be limited by type of project and percentage of landscaped area in accordance with the following chart:

#### C.3-4.2-1 PROJECT TYPE

B.

% OF TURF ALLOWED (of landscaped area)

#### A. RESIDENTIAL (per general plan designation)

1.	RH (high density)	50% or 80%	(cool season grass) (warm season grass)
2.	RMH (medium high)	30%	(cool season grass)
	RM (medium)	or 50%	(warm season grass)
3.	RLM (low medium density)	15%	(cool season grass)
	RL (low density)	or 25%	(warm season grass)
COMMERCIAL/INDUSTRIAL		10% or 15%	(cool season grass) (warm season grass)

### IV.C

## WATER CONSERVATION POLICIES AND REQUIREMENTS

- C.3-4.2-2 EXEMPTIONS: The following areas are exempt from the turf % limitations:
  - a. common **recreation** areas associated with Planned Unit Developments (PUD's) or Planned Industrial Permits (PIP's).
  - b. single family individual lots.
  - projects that have reclaimed water service at the time the approved landscape is installed and will utilize the reclaimed water on the proposed turf areas.
  - d. public or private parks and golf courses as defined in Appendix G.
- C.3-4.2-3 For purposes of **this** requirement, landscape area shall be as defined in Appendix G and shall not include natural or manmade slopes 2:1 or steeper or areas designated as "Open Space" by the City.
- C.3-4.3 No turf shall be allowed in:
  - a. median islands
  - b. areas less than 6 feet wide
  - c. slopes over 4:1 steepness
- C.3-4.4 Turf shall not be allowed in areas generally not visible to the public or site occupants (i.e., backs of buildings, service areas, behind fences and screens etc.) unless this area is designed as a recreation area.
- C.3-4.5 Areas of public and private recreation facilities (i.e. parks and golf course) that can be non-turf without affecting the recreational use shall be designed toward this goal.
- C.3-4.6 Woody shrubs shall be planted over herbaceous ground cover areas to cover 60% of the ground cover area (at mature size).

#### C.3-5 IRRIGATION

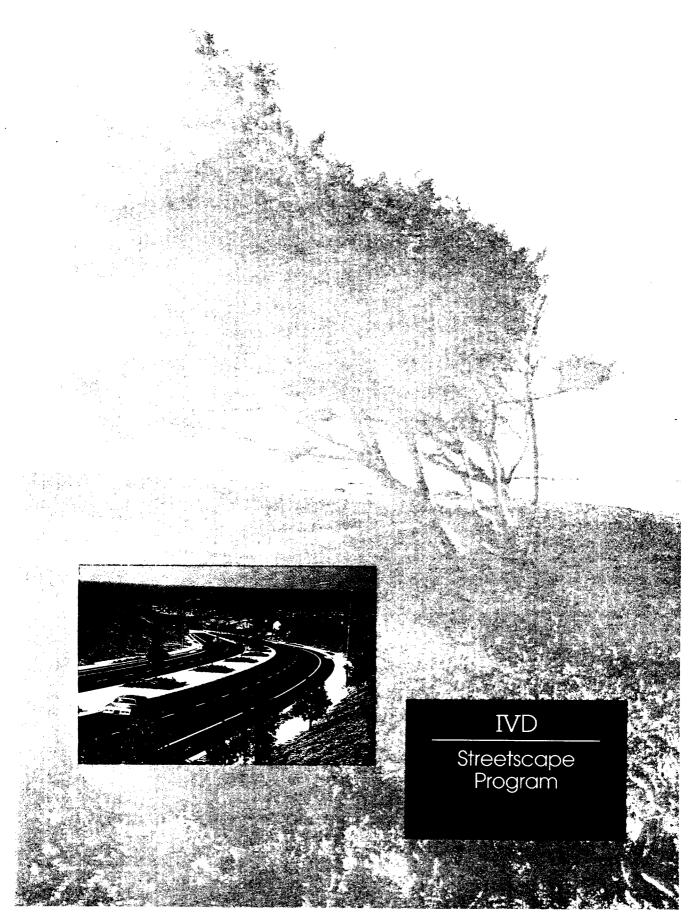
C.3-5.1 Projects shall be designed to utilize reclaimed water and/or other alternative non-potable water sources for landscaping to the satisfaction of the City. All regional and local water and health code requirements in force at the time of final landscape approval shall apply including, but not limited to, installation of labeled or colored irrigation pipe to denote reclaimed water use.

The above requirement may be waived if the City determines that the project is out of the service area of future reclaimed water as shown in the City's Reclaimed Water Master Plan or other related documents.

- C.3-5.2 Provide separate water service for landscaping including but not limited to connections, water meters, and backflow preventers for all commercial/industrial projects, residential common areas in projects over 4 dwelling units, parks, and golf courses.
- C.3-5.3 Irrigation circuits shall be organized into "hydro zones" based on plants, sun and shade exposure, topography, and soils.
- C.3-5.4 Sprinkler head spacing in lawn areas and where stream sprays, rotors or impacts are used shall be equal to 50% of the diameter spray.

# WATER CONSERVATION POLICIES AND REQUIREMENTS

C.3-5.5	The systems shall be designed for minimum runoff and overspray onto non-irrigated areas.
C.3-5.6	Sprinkler heads shall have matched precipitation rates within each control valve circuit and head types shall not be mixed within the circuit.
C.3-5.7	The irrigation system shall be designed to apply water at a rate not exceeding the infiltration rate of the soil.
C.3-5.8	All trees in lawn areas shall be irrigated with a "deep watering device" (drip or bubbler application inside a drain pipe See Appendix D).
C.3-5.9	Serviceable check valves located in valve boxes or on risers (above grade) are required where elevation differential may cause low head drainage.
C.3-5.10	All irrigation systems shall be equipped with an automatic controller capable of dual or multiple programming. Controllers must have multiple cycle start capacity and a flexible calendar program.
C.3-5.11	A rain shut off device shall be included in the irrigation system affecting all stations.
C.3-5.12	Moisture sensors or hydrometers may be required at the discretion of the City.
C.3-6	FOUNTAINS
C.3-6.1	Fountains shall have recycling systems.
C.3-6.2	Fountains, decorative pools and ponds shall utilize reclaimed water if available or be designed to utilize reclaimed water so that it can be utilized when it becomes available. When reclaimed water becomes available, the water feature shall be immediately converted to reclaimed use. The design and equipment shall conform to local water and health agency requirements related to reclaimed water.
C.3-6.3	Fountains shall be designed to minimize evaporative loss.



## STREETSCAPE PROGRAM POLICIES AND REQUIREMENTS

D.1	POLICY STATEMENTS
D.1-1	Landscaping shall accentuate positive, natural, historical, and architectural elements of Carlsbad.
D.1-2	Landscaping shall be designed toward a goal of providing a pleasing and safe vehicular and pedestrian experience.
D.1-3	The City is establishing these policies and requirements to ensure that sidewalks and other pedestrian walkways are safe for pedestrian use and that cracking or buckling of sidewalks and other pedestrian walkways will be eliminated or minimized. The City is not a guarantor of perfectly flat sidewalks and can only maintain them within its reasonable budgetary powers. However, these standard are being established to prevent, to the maximum extent possible, tree roots fron invading, disrupting or destroying City sidewalks. Although it remains the property owner's duty to notify the City if a problem arises and liability to third persons may need to be judicially determined, it is hoped that with the City's routine inspection and maintenance program and these policies and requirements, such incidents will be minimized.
D.1-4	Landscaping along arterial roads shall be consistent with the themes and standards set forth in this section so as to provide visual linkages and identities

#### D.2 AFFECTED AREAS

- Arterial landscaped medians
- Manufactured slopes abutting public/private streets
- Frontage setbacks
- Rear and side yards that abut public/private streets

#### D.2 OTHER APPLICABLE SECTIONS

Including but limited to:

- General Planting and Irrigation Policies and Requirements
- Water Conservation Policies and Requirements
- Installation, Bonding, and Maintenance Requirements

#### D.3 GENERAL STREETSCAPE PLANTING REQUIREMENTS

- D.3-1 PLANTING
- D.3-1.1 SIGHT DISTANCE
- D.3-1.1-1 Landscape elements over 30" in height (including planting measured at maturity) are not allowed at street corners within a triangular zone drawn from two points, 25' outward from the beginning of curves and end of curves. (See Appendix C.4).

The same height limitation applies at driveways 25' from the edge of the apron outward along the curb then 45° in toward the property.

## STREETSCAPE PROGRAM POLICIES AND REQUIREMENTS

- D.3-1.1-2 Sight lines shall be maintained at driveways.
- D.3-1.1-3 In addition to the requirement above (D.3-1.1-1), on collector streets and greater, Cal Trans Sight Distance Standards shall apply to the height restriction stated in D.3-1.1-1.
- D.3-1.2 STREET TREES
- D.3-1.2-1 Provide a minimum of one tree for every 40' of street frontage. Trees may be planted on center or grouped.
- D.3-1.2-2 If the streetscape is along a major or prime arterial, the street tree planting shall conform to the "Arterial Road Themes" (refer to Section IV.D.4 and Appendix C.1).
- D.3-1.2-3 Locate street trees:
  - a. A minimum of 3' outside the public right of way (except within the "Redevelopment Zone (VR Zone) and Beach Area Overlay Zone" where street trees may be allowed within the R.O.W. if approved by the City).
  - b. A minimum of 5' from paving.
  - c. A minimum of 7' from any sewer line.
  - d. Not in conflict with public utilities.
  - e. Not be allowed on street corners within a triangular zone drawn from two points, 25' from the beginning of curves and end of curves or within sight lines as described under "Sight Distance" above. (See Appendix C.4).
- D.3-1.2-4 Trees planted within 5' of public sidewalks shall be installed with root barriers approved by the City.
- D.3-2 IRRIGATION
- D.3-2.1 WITHIN PUBLIC RIGHT-OF-WAY
- D.3-2.1-1 Be automatically controlled.
- D.3-2.1-2 Use only pop up heads or drip system.
- D.3-2.1-3 Designed and be installed with every effort made to eliminate spray or runoff onto streets or sidewalks.

#### D.4 ARTERIAL ROAD REQUIREMENTS

- D.4-1 CONCEPT
- D.4-1.1 These roadways will carry large volumes of traffic into and through Carlsbad. They provide the means for an initial and repeated exposure to the City's physical setting. Their visual corridors play an important role in developing an image of Carlsbad. This image creates an enduring impression to aid in the City's sense of place and community pride.
- D.4-1.2 Specific criteria has been set for the landscaping along the prime and major arterial roadways. These routes will each have individual streetscape themes

## STREETSCAPE PROGRAM POLICIES AND REQUIREMENTS (cont)

creating a recognizable identity for each particular thoroughfare or segment of thoroughfare. The themes are based on the character or heritage of that specific area of Carlsbad.

#### D.4-2 TREE TYPES

The specific trees creating a streetscape theme have been pre-selected by the City. Each theme shall be made up of four (4) types of trees: "Theme", "Support", "Median", and "Project Identity/Accent Trees".

	ricular, and rioject racinity/ricocite ricoc.			
		PERCENTAGE OF TOTAL STREETSCAPE TREES (includes street tree requirement plus adjacent setbacks)		
	<b>Median Island Trees</b> - These trees shall be installed as part of the required street improvements.	N/A		
	<b>Theme Trees</b> - These trees set the overall character of the streetscape and are located along the roadside but outside the right-of-way. (See D.3-1.2-3.)	50% (100% of standard D.3-1.2-1)		
	<b>Support Trees</b> - These trees were selected to complement the theme tree. Select trees from those listed which fit the project site conditions.	30%		
	<b>Project Identity/Accent Trees</b> - These trees are not pre-selected, rather the applicant can choose the best tree for their project and submit it for City approval.	20%		
D.4-3	MEDIAN LANDSCAPE CONSTRUCTION REQUIREM	MENTS		
D.4-3.1	Construction drawings for concrete surfacing and landscaping shall be submitted on separate sheets as part of the STREET IMPROVEMENT PLANS.			
D.4-3.2	Related to landscaping standards for public improvements, the order of precedents shall be:			
	<ol> <li>Landscape Manual</li> <li>"City of Carlsbad Standards"</li> <li>Standard Specifications for Public Works Cons</li> </ol>	truction ("Green Book")		
D.4-3.3	Plans shall be approved by the City Engineer and Parks and Recreation Director.			
D.4-3.4	MEDIAN CONCRETE			
D.4-3.4-1	3.4-1 The median layout shall be in conformance with the "Arterial Median Layout" (see Appendix C.2).			
D.4-3.4-2	Concrete color and pattern shall be as specified under "Arterial Streetscape Themes" (see Appendix C.1) and as approved the Parks and Recreation Director.			
D.4-3.4-3	Prior to installation, a 10' x 10' square sample shall be sample shall be approved by the City prior to installation.			
D.4-3.4-4	Concrete shall be a minimum of 560-C-3250 with 6 x throughout.	6 - 10 x 10 welded wire mesh		

# STREETSCAPE PROGRAM POLICIES AND REQUIREMENTS (cont)

D.4-3.5	SOIL
D.4-3.5-1	Finish grade shall be 2" below the concrete surface of the median.
D.4-3.5-2	Soil shall be suitable for plant growth and free of harmful substances or deleterious materials.
D.4-3.6	MEDIAN PLANTING REQUIREMENTS
D.4-3.6-1	Trees and shrubs shall be as specified in the "Arterial Street Themes." (see Appendix $C.1$ )
D.4-3.6-2	Trees shall be 24" box minimum size; one or more per planter.
D.4-3.6-3	Shrubs shall be 5 gallon minimum size.
D.4-3.6-4	Shrub spacing shall be such that $100\%$ coverage will occur within one year.
D.4-3.6-5	Installation details shall conform to "Public Project Landscape Details." (see Appendix D)
D.4-3.7	MEDIAN IRRIGATION REQUIREMENTS
D.4-3.7-1	All irrigation equipment shall be approved <b>in writing</b> by the Parks and Recreation Department prior to preparation and submittal of plans.
D.4-3.7-2	Installation details shall conform to "Public Project Landscape Details." (see Appendix D)
D.4-3.7-3	Controllers, and backflow devices, shall be located 2' inside the public right-of-way in the planting area unless specified otherwise by the City. (see Appendix C.3) Water meters shall be installed as required by the water district jurisdiction.
D.4-3.7-4	Controllers shall be installed in separate steel locking enclosures. Enclosures shall have the following words stenciled with 2 inch high white letters on the side facing the street. (see Appendix C.3)
	"CITY OF CARLSBAD MEDIAN IRRIGATION"
D.4-3.7-5	Sleeving shall conform to requirements specified in Section IV.B.3-12.
D.4-3.7-6	No irrigation circuit shall span separate islands.
D.4-3.7-7	No irrigation circuit shall span more than five planters.
D.4-3.7-8	The irrigation system shall consist of drip irrigation servicing the shrubs and flood bubblers in "Deep Watering Devices" servicing the trees. (see Appendix D)
D 4-3 7-9	Quick counters shall be installed every third median planter



Policies and Requirements

## SLOPE REVEGETATION/EROSION CONTROL POLICIES AND REQUIREMENTS

E.1	POLICY STATEMENTS	
E.1-1	Soil erosion is detrimental to the quality of life in Carlsbad due to topsoil loss and siltation of waterways and lagoons.	
E.1-2	The most effective erosion control is the establishment of permanent landscaping.	
E.1-3	Erosion potentials shall be mitigated through erosion control planting/slope revegetation.	
E.1-4	Irrigation shall be designed to apply optimum water to the slope plants without causing erosion.	
E.1-5	Plant materials used on slopes shall be those species that are known to have low water requirements and rooting systems of various depths that will minimize erosion and soil slippage.	
E.1-6	Plant materials used shall be compatible in cultural requirements and aesthetic appearance to adjacent natural landscapes.	

#### OTHER APPLICABLE SECTIONS

Include but not limited to:

- Fire Management Program Policies and Requirements
- General Landscape and Irrigation Policies and Requirements
- Water Conservation Policies and Requirements

#### E.3 REQUIREMENTS

#### E.3-1 SLOPE PLANTING

#### E.3-1.1 SLOPE PLANTING STANDARDS

Slopes requiring erosion control measures as specified herein shall be treated with one or more of the following planting standards:

#### a. Standard #1 - COVER CROP/JUTE MESH

Cover crop shall be a seed mix typically made up of quick germinating and fast covering grasses, clovers, and/or wild flowers. Submit the specific seed mix for City approval prior to application. The cover crop shall be applied at a rate and manner sufficient to provide 90% coverage within thirty (30) days.

Type of jute mesh shall be as approved by the City and staked to the slope as recommended by the manufacturer.

Jute mesh shall be required when planting occurs between August 15 and April 15.

During the remainder of the year, the cover crop and/or jute mesh may be used.

IV.E

## SLOPE REVEGETATION/EROSION CONTROL POLICIES AND REQUIREMENTS

(cont)

#### b. Standard #2 - GROUND COVER

One hundred (100%) percent of the area shall be planted with a ground cover known to have excellent soil binding characteristics (planted from a minimum size of flatted material and spaced to provide full coverage within one year).

#### c. Standard #3 - LOW SHRUBS

Low spreading woody shrubs (planted from a minimum of  $2^{3}$ /4 inch liners) shall cover a minimum of seventy (70%) percent of the slope face (at mature size).

#### d. Standard #4 - TREES AND/OR LARGE SHRUBS

Trees and/or large shrubs shall be (planted from a minimum of 1 gallon containers) at a minimum rate of one (1) plant per two hundred (200) square feet.

#### E.3-1.2 AREAS OF APPLICATION (PLANTING)

#### E.3-1.2.1 SLOPES -- 6:1 or steeper and:

- a. **3 feet or less in vertical height** and are adjacent to public walks or streets require at minimum Standard #1 (cover crop and juted).
- b. 4 feet to 8 feet in vertical height require Standards #1, #2 and #3.
- c. In excess of 8 feet in vertical height require Standards #1, #2, #3 and #4.

#### E.3-1.2-2 SPECIAL CONDITIONS

- E.3-1.2-2.1 Areas graded flatter than 6:1 require Standard #1 (cover crop) when they have one or more of the following conditions:
  - a. Sheet graded pads not scheduled for improvements within 6 months of completion of rough grading.
  - b. A potential erosion problem as determined by the City.
  - Identified by the City as highly visible areas to the public or have special conditions that warrant immediate treatment.
- E.3-1.2-2.2 Areas to be hydroseeded shall first be disked or rototilled to provide a friable, loose seed bed.

#### E.3-1.3 HYDROSEEDING

- E.3-1.3.1 Hydroseeding in lieu of Standard #2 may be allowed if approved by the City and under the following conditions.
  - a. Native plants are required to be planted as a condition of approval of the project by the City or other presiding agency and the required species are commercially unavailable in container or flatted stock.
  - b. The slope is demonstrated to the satisfaction of the City to be too rocky for hand planting.

#### IV.E

## SLOPE REVEGETATION/EROSION CONTROL POLICIES AND REQUIREMENTS

cont)

E.3-1.3.2 The hydroseed mix shall consist of a variety of long lived plant materials with root systems of varying depth.

#### E.3-1.4 ROCKY SLOPES

Planting need not be provided for cut slopes that are deemed by the City Engineer to be rocky in character and not subject to damage by erosion. This also includes any slopes protected against erosion damage by other methods. Other methods can be used if they have been specifically recommended by a soils engineer, engineering geologist, or equivalent authority and found to offer erosion protection equal to that provided by the planting specified in this section and they are approved by the City Engineer.

#### E.3-2 SLOPE IRRIGATION

#### E.3-2.1 AREAS OF APPLICATION (IRRIGATION)

All areas requiring planting under Section E.3-1 shall be irrigated with a permanent automatically controlled irrigation system covering 100% of the planted area and in conformance with the following requirements.

#### E.3-2.2 SLOPE IRRIGATION STANDARDS

E.3-2.2-1 Water service (point of connection) installation, temporary or permanent, shall be in place to coincide with planting timing specified in section E.3-1.

#### E.3-2.2-2 PIPE

On grade pipe is not allowed unless it is demonstrated to the satisfaction of the City that the rocky condition of the slope would prevent trenching. In cases where on grade pipe is allowed it shall be the galvanized type or UVR resistant PVC approved by the City.

#### E.3-2.2-3 MASTER CONTROL VALVE

Projects with over 50,000 square feet of slopes shall install a "master control valve" (normally closed) to be activated by the automatic controller. This valve shall be located just downstream of the point of connection.

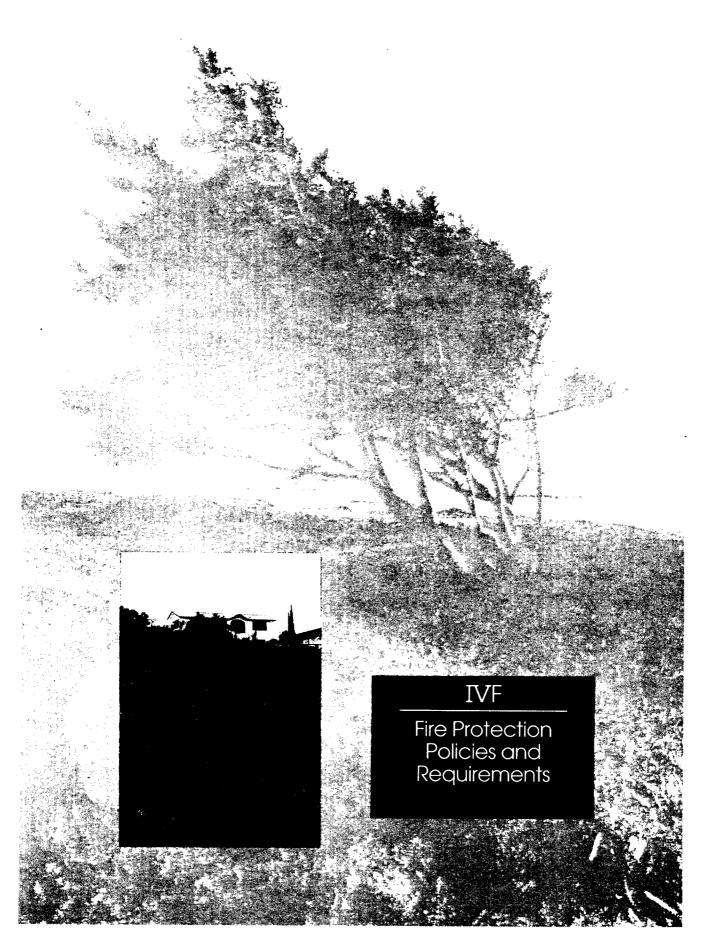
#### E.3-2.2-4 SEPARATE CIRCUITS

- a. The top, bottom, and middle of slopes shall be designed to operate on separate circuits.
- b. Level planting areas adjacent to roads or walls 5' or greater in width shall be irrigated separately from the slopes.

#### E.3-2.2-5 SPRINKLER HEAD TYPES

The precipitation rate (based on ½ head pattern) of sprinklers used on slopes shall:

- a. not exceed .5" per hour on slopes 25' in horizontal distance or larger.
- b. not exceed 1.4" per hour on slopes 25' in horizontal distance or less.



#### IV.F

## FIRE PROTECTION PROGRAM POLICIES AND REQUIREMENTS

#### F. 1 POLICY STATEMENTS

- F.1-1 Landscape treatments shall be designed so as to mitigate fire dangers to structures adjacent to natural areas.
- F.1-2 Landscape treatments for the purposes of fire protection shall be performed in a manner which limits disruption to environmentally sensitive areas while still achieving conformance with the fire protection standards.

#### F.2 OTHER APPLICABLE SECTIONS

Include but not limited to:

- Slope Revegetation/Erosion Control Polices and Requirements
- General Planting and Irrigation Policies and Requirements
- Water Conservation Policies and Requirements
- Installation, Bonding, and Maintenance Requirements

#### F.3 REQUIREMENTS

Design, installation, and modification of existing vegetation shall be in conformance with one of the following "conditions" or as required or modified by the City.

It shall be the responsibility of the applicant to develop a plan which meets the fire protection requirements. Environmental constraints or other restrictions placed upon the development shall not be considered justification for modification or subordination of fire protection standards. The site planning of the development shall satisfy both the fire protection standards and environmental constraints.

## F.3-1 CONDITION A - MANUFACTURED SLOPE FIRE PROTECTION (See Appendix F.2)

Pertains to man made slopes abutting high risk fire areas as described under Section II C.1

**Section A-1** - measured horizontally 20' outward from the outlying edge of structure(s).

- 1. Planted with ground cover or low growing shrub species (less than 3' in height) known to have fire retardant qualities.
- 2. No trees or shrubs allowed.
- 3. Irrigated.

**Section A-2** - measured horizontally 20' outward from the outlying edge of Section A-1.

 Planted with low water use naturalizing plant species known to have low fuel characteristics. IV.F

## FIRE PROTECTION PROGRAM POLICIES AND REQUIREMENTS

- 2. No trees allowed.
- 3. Irrigated.

**Section A-3** - measured outward from the outlying edge of A-2 to include the remainder of the area between Section A-2 and high risk fire areas as described under Section II C. Horizontal distance from the structure(s) to untreated high risk areas shall not be less than 60'.

- Planted with low water use naturalizing plant species known to have low fuel characteristics.
- 2. Trees are allowed but shall not be planted closer than 20' apart.
- 3. Irrigated.

#### F.3-2 CONDITION B - NATIVE SLOPES-WILDLAND FIRE SUPPRESSION (See Appendix F.2)

Pertains to areas where removal of environmentally sensitive native vegetation is restricted within the fire sections.

Section B1 - measured 20' horizontally from the outlying edge of the structure(s) toward the environmentally restricted area as defined by the City.

- 1. Removal of "high fuel and moderate hazard species" as listed in Appendix F.1.
- Planting with ground cover or low growing shrub species (less than 3' in height) known to have fire retardant qualities or as otherwise required by the City.
- 3. No trees or shrubs allowed.
- 4. Irrigated.

**Section B2** - measured horizontally 20' outward from the outlying edge of B1.

- 1. Removal of "high fuel species" as listed in Appendix F.1.
- 2. Removal by selective pruning of up to 60% of the volume of the "moderate fuel species" as listed in Appendix F.1.
- Replanting with naturalizing low fuel species.
- 4. Trees and large tree form shrubs (e.g. Oaks, Sumac, Toyon) which are being retained shall be pruned to provide clearance equal to three times the height of the surrounding understory plant material or 6', whichever is higher. Dead and excessively twiggy growth shall also be removed.
- Irrigated.

## FIRE PROTECTION PROGRAM POLICIES AND REQUIREMENTS

(cont)

**Section B3** - measured horizontally 20' outward from the outlying edge of Section B2. The outer edge of B3 shall extend horizontally to a point at least 60' from structures.

- 1. Removal of "high fuel species" as listed in Appendix F.1.
- 2. Removal by selective pruning of up to 40% of the volume of the "moderate fuel species" as listed in Appendix F.1.
- 3. Trees and large tree form shrubs (e.g. Oaks, Sumac, Toyon) which are being retained shall be pruned to provide clearance equal to three times the height of the surrounding understory plant material or 6', whichever is higher. Dead and excessively twiggy growth shall also be removed.
- 4. Non-irrigated.

F.3-7

F.3-3	It is the applicants responsibility to secure agreements with owners of adjacent property to modify offsite wildland fire hazards to the proposed project so that conformance with the fire protection standards is achieved.	
F.3-4	Maintenance access shall be provided to the fire protection areas.	
F.3-5	Debris and trimmings produced by thinning shall be removed from the site or shall be converted to mulch by a chipping machine and evenly dispersed over the area to a maximum depth of 4".	
F.3-6	Flammable wood fencing shall not be allowed within 100' of the native undisturbed area.	

The Fire Department may require documentary photographs of slopes at the time

of treatment. Photographs will remain in possession of the City as a reference

for future maintenance inspections by the City.

# Implementation\_



- A. installation
- B. Bonding
- C. Maintenance

#### **IMPLEMENTATION**

A.1-1	CONSTRUCTION SCHEDULE
A.1-1.1	Prior to start of grading, the applicant or applicant's agent shall obtain City approval of a construction schedule and/or exhibit outlining the timing of the slope planting and irrigation.
A.1-1.2	Special consideration shall be given to water and electrical services.
A.1-1.3	Irrigation and planting shall take place as grading progresses.
A.1-1.4	The schedule shall show timing of construction of free-standing, retaining and crib walls immediately after rough grading at each location is achieved.
A.1-2	IRRIGATION
	Installation of irrigation as shown on the approved plans shall commence within 10 days of the time when each slope is brought to grade as shown on the approved grading plans.
A.1-3	PLANTING
	Planting and irrigation for the areas described above under A.1-2 shall be completely installed, as shown on the approved plans, within 30 days after the irrigation installation first commences.
A.2	LETTER OF CERTIFICATION (INSTALLATION)
	The licensed designer of record for all the projects requiring landscape plans shall submit a letter to the City stating that the project has been installed in substantial conformance with the approved plans and specifications:
	a. Prior to granting a Permit of Occupancy on private developments, or
	b. Prior to approval of City of work done on public property that will be maintained by City forces and prior to the required maintenance period as described in Section B.3-1.
В.	MAINTENANCE
	(Public and private projects)
B.1	CONDITION OF LANDSCAPES
B.1-1	All planting areas shall be maintained in a healthy and thriving condition.

All planted areas shall be maintained in a relatively weed-free condition and clear of undergrowth which may cause undue fire hazards. Plantings must be fertilized and watered at such intervals as are necessary to promote optimum growth.

CULTIVATION AND WATERING

B.1-2

INSTALLATION

SLOPE REVEGETATION / EROSION CONTROL

A.1

## **IMPLEMENTATION**

B.1-3 Landscape irrigation shall be applied at a rate not exceeding the infiltration rate of the soil (minimizing erosion and water waste) but sufficiently to allow for healthy plant growth.

#### B.1-4 REPLANTING

All trees, shrubs, ground covers, and other plant material which have been planted and which, due to accident, damage, disease, or other cause, fail to show a healthy growth, shall be replaced. Replacement plants shall conform to all standards that govern the original planting installation.

#### B.2 CHANGES TO THE APPROVED LANDSCAPE

Projects that required approved landscape plans must maintain the landscape in a manner in substantial conformance with the approved landscape plan. Any changes to the approved landscapes after installation must be approved by the City in advance.

- B.3 LANDSCAPE MEDIANS AND OTHER AREAS TO BE MAINTAINED BY CITY FORCES
- B.3-1 MAINTENANCE PERIOD
- B.3-1.1 The medians shall be maintained by the developer (responsible for their construction) for a period of 90 days, or until plants deemed established and the irrigation is operating properly to the satisfaction of the Parks and Recreation Director, whichever period is longer.
- B.3-1.2 A maintenance schedule showing proposed activities and frequencies shall be submitted to the City for approval at the time of acceptance of the median landscape construction, and prior to commencement of the landscape maintenance period.
- B.3-1.3 At the time of final acceptance, the City shall be given all controller enclosure keys, quick coupler keys, operation manuals, and other items called out in the approved plans and specifications and necessary to maintain the landscape.

#### B.4 FIRE SUPPRESSION MANAGEMENT AREAS

Areas of developments that were approved under the requirements of Section II C and IV F of this manual shall be maintained by the responsible private party in conformance with the approved Fire Suppression Plan.

Plants shall be kept pruned to the volume requirements set forth in Section F.

## **IMPLEMENTATION**

#### C. RELEASE OF BONDS

C.1 LETTER OF CERTIFICATION (RELEASE OF BONDS)

Prior to release of bonds, the licensed designer of record on the project shall submit a letter to the City Engineer certifying that he or she has inspected the work and that the project complies with the following conditions:

- a. Has been maintained in substantial conformance to the approved plans.
- b. Is growing in a healthy and thriving condition.
- c. All plantings required under Section IV.E of this manual have been established as an effective surface erosion control.
- d. There is no evidence of excessive runoff from the irrigation system causing a soil erosion problem.
- °C.2 Prior to release of bonds, as-built landscape plans for the bonded work shall be submitted to and approved by the City.

#### D. AS-BUILTS

- D.1 As-built plans for areas to be eventually maintained by City forces shall be approved by the Parks and Recreation Director.
- D.2 As-builts for all projects (bonded and non-bonded, public and private) are required to be submitted. Submittal of as-built plans shall be as required by the Engineering and Planning Departments.
- D.3 Final as-built plans shall be drafted clearly to the satisfaction of the City, and the original mylars shall be submitted to the City for their keeping.

# Appendix



- A. Plant Zones
- Xeriscape Principles
- C. Streetscape
  - 1. "Arterial Streetscape Themes"
  - 2. Median Layout Diagram
  - 3. Median Irrigation Service Diagram
  - 4. Street Corners Clearance Diagram
- D. Public Project Landscape Details
  - 1. Tree Planting/Deep Watering Device
  - 2. Shrub Planting
  - 3. Tree Staking
- E. Parking Lot Diagram
- - 1. High Fuel Species
  - 2. Sections
- G. Definitions
- H. Checklist

#### ZONE 1 - LUSH LANDSCAPE

#### Criteria

- a. Zone One should be utilized only in areas of a development which require a lush green landscape such as areas of high use or visual importance.
- b. The plantings require an intensive maintenance operation to produce the desired appearance.
- c. This Zone's anticipated appearance relies on large amounts of irrigation. Annual amounts for a healthy, mature landscape are estimated at over thirty (30") inches of supplemental water annually.

#### 2. Description

Zone One may be thought of as a traditional landscape, green, lush, and flowering. Most plants used to produce this effect do not come from a semi-arid type climate found in Southern California. These exotic plants require large amounts of water and intensive maintenance.

Although Carlsbad has a mild temperate climate, it remains a semi-arid region, characterized by poor, infertile soil. Natural lush landscapes are found within our area, but only in very limited micro-climates whose special environment can produce the requirements to support this types of landscape.

This natural pattern of limited lush landscapes should act as a guide for Zone One's use. These lush landscapes should be utilized for areas of intensive use or as a sensory rich setting in areas visible and important to the majority of users, such as entries, courtyards, pedestrian ways, and recreation areas.

- Zone One Plants Typical species related to this zone might be:
  - Azalea species
  - Fatsia japonica
  - Ferns Asplenium; Blechnum
  - **Fuchsia**
  - Gardenia species
  - Schefflera actinophylla
  - Annual flower color
  - Lawns

#### **ZONE 2 - REFINED LANDSCAPE**

#### 1. Criteria

a. Zone Two should have an unmanicured appearance, not unkept, but rather a landscape designed to require less intensive types of



maintenance such as mowing, pruning, fertilizing, and watering. Plant material whose appearance is not dependent on heavy watering and maintenance care.

b. It stresses continually low maintenance by designed plant combinations with matched growth requirements. This zone's water requirements for a mature landscape is estimated between ten (10") and thirty (30") inches of supplemental irrigation water annually.

#### 2. Description

Zone Two attempts to reflect the natural constraints of Carlsbad's physical environment. It substitutes for a historically disproportionate use of Zone One's "traditional landscape". Its design and selection of materials promote less maintenance and lower water requirements.

- 3. Zone Two Plants Typical species related to this zone might be:
  - Pittosporum tobira "Wheeleri"
  - Raphiolepis indica
  - Hebe
  - Agapanthus
  - Psidium guajava
  - Frageria chiloensis

#### C.

#### **ZONE 3 - NATURALIZING LANDSCAPE**

#### 1. Criteria

- a. This zone will be planted in low use areas whose visual character will not have a refined appearance. It will have a naturalized appearance similar to areas of native vegetation and may in fact contain native species.
- b. It will have the ability to "naturalize" once it has been established. Its estimated supplemental water requirement is below ten (10") inches annually.

#### 2. Description

Zone Three will be primarily used to create a more natural looking area, such as slopes, periphery areas, and areas of projects where disturbed grounds may need to blend into vegetation. The success of this landscape is directly related to its ability to become self-sufficient within a prescribed period of time. A self-sufficient landscape, Zone Three is capable of sustaining itself as an effective landscape on very limited water and remain healthy. Few newly planted juvenile plants are "drought tolerant", but they develop the ability to adapt to cycles of dry periods once their root systems have developed and have matured and adapted to the site conditions.

- 3. Zone Three Plants Typical species related to this zone might be:
  - Acacia redolens
  - Mimulus species
  - Ribes speciosum
  - Ceanothus
  - Cassia
  - Lantana camara
  - Mahonia
  - Baccharis pilularis
  - Rosmarinus officinalis

#### ZONE 4 - NATIVE LANDSCAPE

#### 1. Criteria

- Zone Four is an area of existing vegetation whose native character shall remain with very little modification.
- It is planned for low-level active use, which is compatible with the area's natural character.
- c. In this zone, no water is required. The use of irrigation can adversely affect many plants found in this zone. Introduced plants should be watered individually.

#### 2. Description

Zone four consists of natural vegetation, native or naturalized, in which there is no or very little disturbance from site improvements. An area may be planned as a Zone Four landscape to preserve its physical features, its qualities as a natural ecosystem, wildlife habitat, or as open space. These qualities may be used to provide passive recreational opportunities, possibly linked by hiking trails.

Zone Four will require a minimal level of upkeep. Its maintenance program will consist of periodic control of debris and minor clearing and/or pruning for fire protection and removal of non-native species. Retained in their natural non-irrigated condition, these areas will remain relatively dry. Due to this characteristic, a "Fire Protection Program" may be required.

## APPENDIX B

#### THE SEVEN PRINCIPLES OF "XERISCAPE"

1.	Good design.
1.	CREAT CENTRE

- 2. Thorough soil preparation.
- 3. Careful planned use of shrub and lawn areas.
- 4. Adapted, low water demand plants.
- 5. Effective and efficient watering methods.
- 6. Mulched flower and shrub beds.
- 7. Proper landscape maintenance and management.

#### ARTERIAL STREETSCAPE THEMES

#### ALGA ROAD

THEME:

Coastal Foothills

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -

Pinus canariensis. Canary Island Pine

Median Shrubs -Coprosma kirkii (west of El Camino Real)

Lantana M. species (east of El CaminoReal)

Theme Tree -Support Trees - Pinus canariensis, Canary Island Pine Eucalyptus (cladocalyx)

Pine species

MEDIAN ISLAND CONCRETE:

To match existing median condition in Alga Road.

#### CANNON ROAD

Carlsbad Blvd, to El Camino Real

THEME:

Lagoon vistas and wetlands

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -

Melaleuca leucadendra, Cajeput Tree

Median Shrubs -

Limonium perezii, Statice

Coyote Brush

Theme Tree -

Pinus torreyanna, Torrey Pine

Support Trees -

Eucalyptus species

Melaleuca leucadendra, Cajeput Tree

#### MEDIAN ISLAND CONCRETE:

\*Surface Texture - Exposed aggregate with brick bands around each planter.

\*Color - Concrete (natural), brick (charcoal)

\*or to match existing median condition in Cannon Road



#### **CANNON ROAD**

El Camino Real to eastern City limit

THEME:

Riparian Corridor

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -Shrub Tree - Liquidamber styraciflua

Limonium perezii, Statice Baccharis pilularis, Coyote Brush

Theme Tree -

Platanus acerifolia, London Plane Tree (multi-trunk)

Support Trees - Oak species

Liquidamber styraciflua

#### MEDIAN ISLAND CONCRETE:

\*Surface Texture - Riverstone ("Bomanite" pattern or equal)

\*Color - "Santa Barbara Brown" (Scofield Co. color or equal)

\*or to match existing median condition in Cannon Road

#### CARLSBAD BOULEVARD

south of Cannon Road

THEME:

Scenic sea coast drive

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -

Washingtonia robusta (fan palm), Mexican Fan Palm

Median Shrub - Limonium perezii, Statice

Carissa g. "Prostata," Prostrate Natal Plum

Theme Tree - Support Tree -

Cupressus macrocarpa, Monterey Cypress

support Tree - Melaleuca nesophila)

Myoporum

MEDIAN ISLAND CONCRETE:

(Only applicable if street is improved to current arterial standards.)

Surface Texture - Riverstone ("Bomanite" pattern or equal)

Color - Natural with exposed aggregate

**CARRILLO WAY** 

THEME:

Riparian and historical context

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -

Populus fremontii, Western Cottonwood Trachelospermum jasminoides, Star Jasmine

Median Shrub -Theme Tree -

Alnus rhombifolia, White Alder

Support Trees -

Liquidamber styraciflua

Populus fremontii, Western Cottonwood

MEDIAN ISLAND CONCRETE:

Surface Texture - Riverstone ("Bomanite" color or equal)

Color - Dark Grey

**COLLEGE BOULEVARD** 

THEME:

Neighborhood identity and character

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -

Pyrus kawakamii, Evergreen Pear

Median Shrub -Theme Tree - Carissa g. "Prostata," Prostrate NatalPalm Cinnamomum camphora, Camphor Tree

Support Trees -

Eucalyptus species

Liriodendron tulipifera, Tulip Tree



#### MEDIAN ISLAND CONCRETE:

Surface Texture - Herringbone Brick ("Bomanite" pattern or equal) Color - Mocha Brown ("Scofield Co." color or equal)

#### EL CAMINO REAL

THEME:

Scenic corridor tying City together

PLANTING SCHEME:

Formal

LANDSCAPE:

Median Tree -

Tristania conferta, Brisbane Box

Median Shrub -

Rhapiolepis i. "Pink Cloud," Indian Hawthorn Platanus acerifolia, London Plane Tree

Theme Tree -Support Trees -

Eucalyptus species

Tristania conferta, Brisbane Box

#### MEDIAN ISLAND CONCRETE:

To match existing median condition in El Camino Real

#### LA COSTA BOULEVARD

THEME:

Lagoon vistas and wetlands

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -

Platanus racemosa, California Sycamore

Median Shrub -

Mahonia a. "compacta," Compact Oregon Grape

Theme Tree -

Salix babylonica, Weeping Willow

Support Trees -

Eucalyptus viminalis, Manna Gum

Platanus racemosa, California Sycamore

#### MEDIAN ISLAND CONCRETE:

Surface Texture - Running Bond Cobblestone ("Bomanite" pattern or equal. with exposed aggregate

Color - Natural

PALOMAR AIRPORT ROAD

I-5 to El Camino Real

THEME:

Oak grove woodland

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -

Quercus ilex, Holly Oak

Oak species

Median Shrub -

Agapanthus orientalis, Lilly of the Nile

Theme Tree -

Support Trees -

Alnus rhomifolia, White Alder

Platanus acerifolia, London Plane Tree (multi-trunk)

MEDIAN ISLAND CONCRETE:

To match existing median condition on Palomar Airport Road

#### PALOMAR AIRPORT ROAD

El Camino Real to eastern City limit

THEME:

Agricultural history/valley vistas

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -

Eucalyptus ficifolia, Red Flowering Gum

Median Shrub -

Agapanthus orientalis, Lilly of the Nile Schinus molle, California Pepper

Theme Tree -Support Trees -

Eucalyptus ficifolia, Red Flowering Gum

Oak species

MEDIAN ISLAND CONCRETE:

Surface Texture - Flagstone ("Bomanite" pattern or equal) Color - "Santa Barbara Brown" (Scofield Co. or equal)



POINSETTIA LANE

THEME:

Flowering Streetscape

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -

Magnolia grandiflora, Southern Magnolia

Median Shrub -

Prittosporum "Wheeleri"

Theme Tree -Support Trees - Magnolia grandiflora, Southern Magnolia Brachychiton acerifolia, Flame Tree

Stenocarpus sinuatus, Fire Wheel Tree

MEDIAN ISLAND CONCRETE:

To match existing median condition on Poinsettia

RANCHO SANTA FE ROAD/MELROSE DRIVE

THEME:

Foothills Landscape

PLANTING SCHEME:

Informal

LANDSCAPE:

Median Tree -

Pinus roxburghii, Chir Pine

Median Shrub -

Juniperus c. "Pfitzerana compacta" (Rancho Santa Fe)

Pittosporum t. "Wheelerii" (Melrose Drive)

Theme Tree -

Pinus torreyana, Torrey Pine

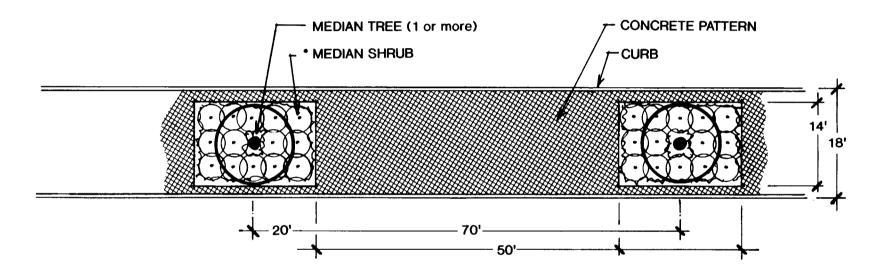
Support Tree -

Jacaranda acutifolia

Pinus roxburghii, Chir Pine

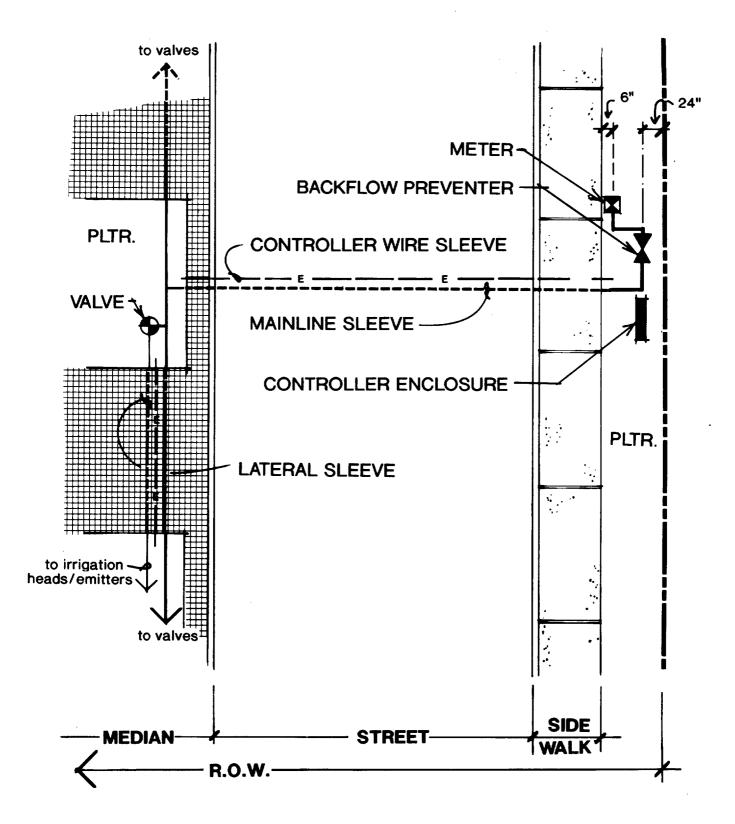
MEDIAN ISLAND CONCRETE:

To match existing in Rancho Santa Fe Road.



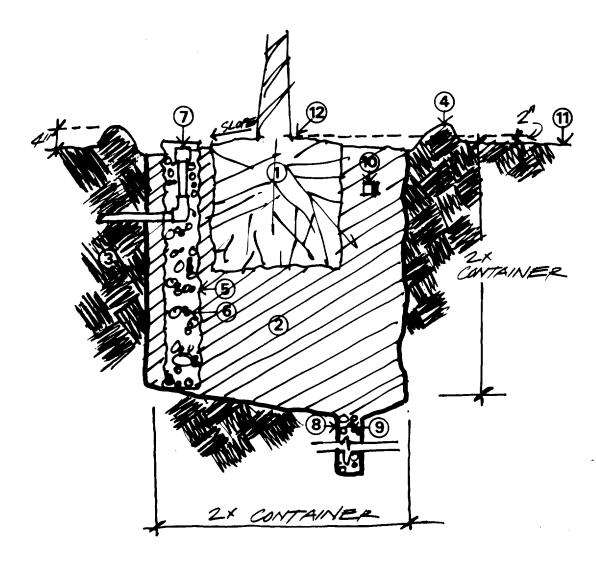
\*spacing to achieve 100% coverage within 1 year

#### **MEDIAN LAYOUT DIAGRAM**



**MEDIAN IRRIGATION SERVICE** 

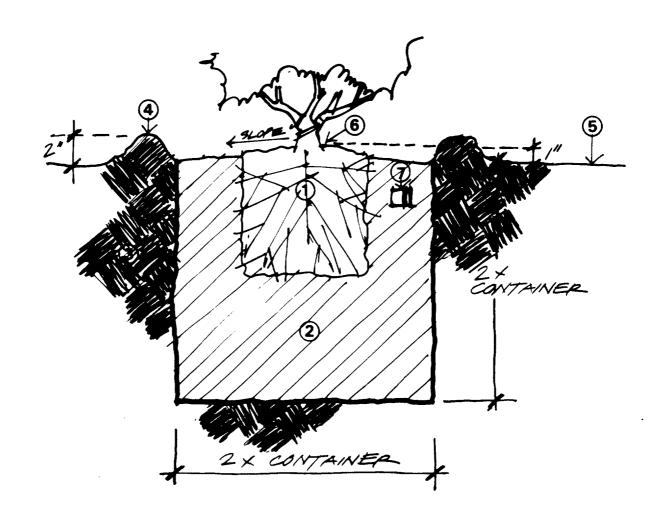
STREET CORNER SIGHT CLEARANCE



- POOT BALL 1
- BACKFILL (PER GOILS PEPORT)
- NATIVE SOIL (UNDISTURBED) 3
- BASIN BERM 4
- 6" & PERFORATED PIPE, 2 PER TREE 3/8" CRUSHED GRAVEL, 2 PER TREE (5)
- **6**
- BUBBLER OR DRIP (IN PIPE), 2 PER TREE 7
- 4" & AUGER HOLE 8
- 3/8" CRUSHED GRAVEL 9
- FERTILIBER (PER SOILS REPORT) 10
- 11) FINISH GRADE
- (12) POOT CROWN

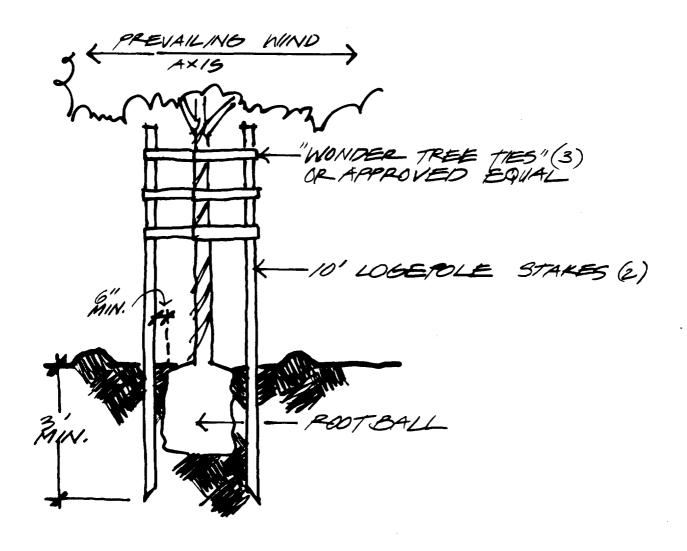
#### TREE PLANTING/DEEP WATERING DEVICE

**MEDIAN PLANTING DETAILS** 

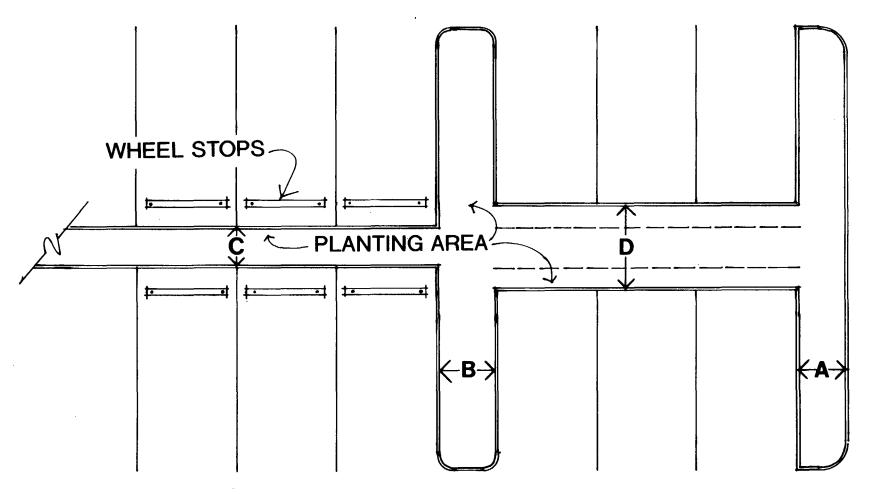


- 1 POOT BALL
  2 BACKFILL (PER
  3 NATIVE BOIL
  4 BASIN BERM
  5 PINISH GRAD
  6 POOT CROWN
  7 FERTILIZER BACKFILL (PER GOILS REPORT)
- NATIVE SOIL (UNDISTURBED)
- PINISH GRADE
- FERTILIBER (PER SOILS REPORT)

#### SHRUB PLANTING **MEDIAN PLANTING DETAILS**



## TREE STAKING MEDIAN PLANTING DETAILS



MIN. DIM.	·
5'	A - END PARKING ISLAND LANDSCAPE (parking on one side)
6'	B - INTERIOR LANDSCAPE ISLAND (parking on both sides)
4'	C - PLANTING STRIPS (w/no car overhang)
9'	D - PLANTING STRIPS (w/car overhang of 2 1/2 feet)

## APPENDIX F VI.F

#### RESTRICTED HIGH FUEL SPECIES

#### NATIVES

Adenostoma fasciculatum

Chamise

Artemisia californica

California Sagebrush

Eriogonum fasciculatum

Buckwheat

Salvia species

Sage

Other species as specified by the City.

#### **DOMESTICS**

Acacia species

Acacia

Cedrus species

Cedar

Cupressus species

Cypress

Dodonaea viscosa

Hopseed Bush

Eucalyptus species

Eucalyptus

Juniperus species

Juniper

Pennisetum

Fountain Grass

Pinus species

Pine

Other species as specified by the City.

#### MODERATE HAZARD SPECIES

Heteromeles arbutifolia

Toyon

Malosma laurina

Laurel Sumac

Quercus dumosa

Scrub Oak

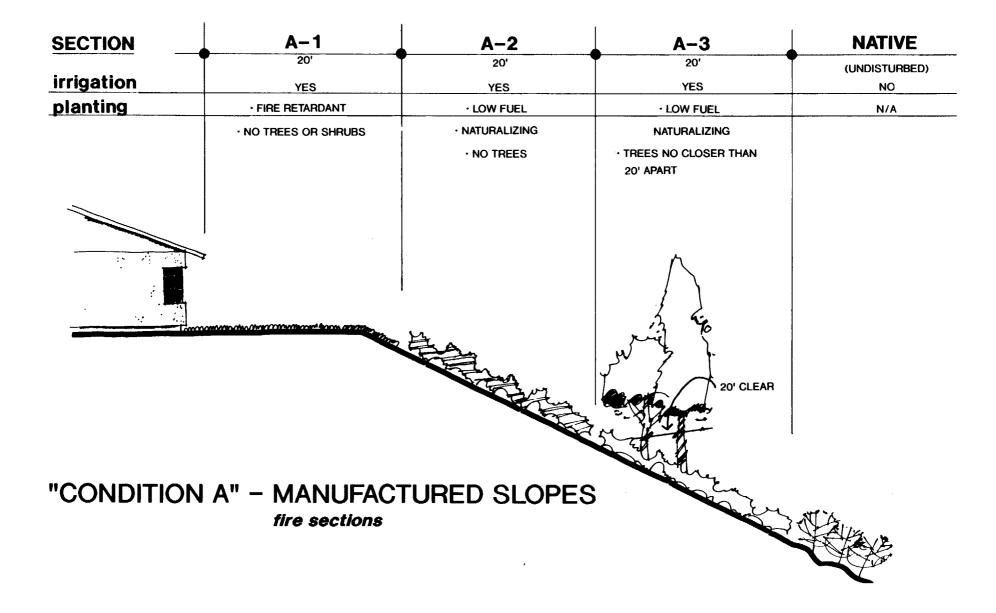
Rhus integrifolia

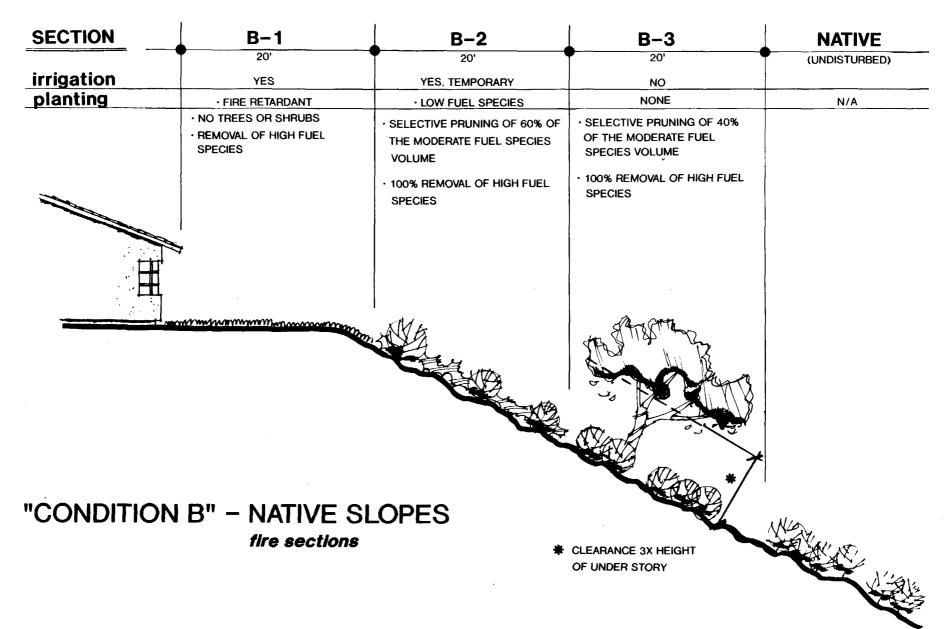
Lemonade Berry

Aylococucus bi-color

Mission Manzanita

Other species as specified by the City.





#### **DEFINITIONS**

**Approved** - means approved by the City of Carlsbad.

Bar Scale - means the scale of a drawing notated on a line such that when the plan is reduced or enlarged, the corresponding scale can be measured off of the line.

City - means the City of Carlsbad.

Common Recreation Area - means a recreation area owned in common by a development and set apart from other areas of the project by lot lines or other distinct elements.

The area used to meet any recreation requirements of the City.

Cover Crop - means a relatively fast growing, quick spreading plant material applied to an area so as to provide erosion control prior to establishment of the more permanent, long-lived plants.

Davs - means calendar davs.

Erosion Control - means short and long term protection of soil surfaces from wind and water soil transport.

Finish Grade - means the final grade or elevation of the non-hardscape portion of a project after all construction is complete as called for in the plans.

Finish Surface - means the final grade or elevation of hardscape portions of the site after all the construction is complete as called for in the plans.

Hardscape - means non-planted areas consisting of concrete or concrete products, brick, asphalt, applied decomposed granite surfaces, etc.

High Risk Fire Area - means a native or manmade landscape consisting primarily of woodv shrubs and trees that have a relatively high potential for sustaining fire as determined by the Fire Chief.

Irrigation Consultant - means a person considered an expert in the irrigation field and the majority of his/her work is in preparing irrigation construction documents.

Landscape Area - means the planted area or area of decorative non-living ground cover (i.e., bark chips, gravel) excluding hardscape surfaces.

The landscaped area refers to the area to be landscaped as part of the work for which the current approval by the City is being sought.

Landscape Plans - means plans that cover the proposed construction of landscape items including planting, irrigation, patios, sidewalks, and other hardscape items, signs, walls, trellises, etc.

Long Lived - means perennial plant material that under normal growing conditions has a life span of greater than 8 years.

Overspray - means irrigation water that sprays beyond the area it is intended to service.

Park - means a public or private recreation area/facility as a separate unit, set apart from other development by property lines or other distinct elements.

Parking Areas - means areas used for access drives, aisles, stalls, maneuvering, and landscaping within that portion of the site that is devoted to vehicle parking and circulation (excluding any required parking set backs).



**Reclaimed Water** - means tertiary treated effluent, suitable for use in landscaping or water features as determined by the presiding water district.

**Run-Off** - means irrigation water that is applied at a rate above the infiltration rate of the soil which causes water to drain away on the surface from the landscape area it is intended to service.

**Turf** - means grasses such as bermuda, bluegrass, fescue, rye, zoyzia, and other grasses or hybrid derivatives of such grasses.

**Typical Species** - means a group of plants with similar appearance and cultural requirements, (not intended to be a complete list of such plants).

Woody Plants - means plants that have stems and trunks that consist of bark.

#### APPENDIX H



#### **CHECKLIST**

PROJECT NAME \_

The following are excerpts from requirements found in the body of the Landscape Manual. They do not necessarily encompass the entire extent of each requirement but rather, represent the essence of each item. When clarification is needed, the plan preparer should refer to the main text of the Landscape Manual for the complete requirement.

This checklist should be used to check off that applicable requirements have been addressed in the plan submittal(s).

THIS CHECKLIST MUST BE PHOTOCOPIED, FILLED OUT, SIGNED, AND SUBMITTED WITH THE PLANS.

PROJECT NU (C.T. No., etc.)		
YES N/A	INFO/FORMAT	SECTION
	Submittals contain all required information and conform to the applicable formats.	II A, B, C III A & B
YES N/A	GRADING / SOIL AMEND / MULCHING	section
	<ol> <li>Plans indicate positive drainage away from structures and termination in approved drainage system.</li> </ol>	IV 4.3-1
	<ol> <li>Soil test taken, reviewed and approved by City, and recommendations incorporated into plans.</li> </ol>	IV C.3-2
	3. A minimum of 3" mulch on all non-turf planting areas less steep than 3:1.	IV C.3-3

YES	N/A

#### **PLANTING**

- 1. All trees (except on slopes 3:1 or steeper) minimum 15 gallon.
- 2. 50% of shrubs (except on slopes 3:1 or steeper) minimum 5 gallon.
- 3. Trees staked or guyed.
- 4. Surface rooted type trees away from hard surfaces.

4. Finish grade in medians 2" below concrete.

- 5. One tree for every 4 parking stalls.
- 6. Trees minimum 2' from curbs.
- 7. 4' clear landscaping in planters between double parking rows (where applicable).

SECTION
IV A.3-1
IV A.3-1
IV A.3-1
IV A.3-1
IV A.3-2
IV A.3-2
IV A.3-2

IV D.4-3



## VI.H APPENDIX H

YES N/A		SECTION
	8. 5' planting strip next to through traffic lane (parking lots).	IV A.3-2
	9. Planter islands at ends of parking rows.	IV A.3-2
	10. Minimum 8' perimeter landscaping around parking area.	IV A.3-2
	11. 3' high screening around parking lots (berms, shrubs and/or walls).	IV A.3-2
	<ol> <li>Sights distances maintained at intersections and vehicular access points (landscape elements under 30" in height).</li> </ol>	IV A.3-2 IV D.3-1
	13. Unsightly elements screened with plants sized to screen the area in 2 years.	IV A.3-4
	14. Plants located for microclimate enhancement and solar access.	IV A.3-5 IV A.3-6
	<ol> <li>Plants with similar cultural requirements of exposure, soils, and water needs grouped together.</li> </ol>	IV C.3-4
	16. Turf areas limited as outlined in section IV C.3-4.	IV C.3-4
	17. Woody shrubs planted over 60% of ground cover areas.	IV C.3-4
	18. One (1) street tree per 40" of street frontage (grouped or on center).	IV D.3-1
	19. Street trees on major arterial roads conform to "Arterial Road Themes."	IV D.4
	<ol><li>Street trees a minimum 3' outside public R.O.W. (except in Redevelopment Zone and Beach Overlay Zone with City approval).</li></ol>	IV D.3-1
	<ol><li>Street trees a minimum 5' from paving, 7' sewer lines, and not in conflict with public utilities.</li></ol>	IV D.3-1
	22. Trees within 5' of public sidewalks have root barriers.	
	23. Median plantings conform to requirements in Section IV D.4-3.	IV D.4-3
	24. Slopes over 8' in vertical height have:	IV E.3-1
	a) standard #1 - cover crop/jute mesh (100% coverage)	
	<ul> <li>b) standard #2 - ground cover, minimum flatted size (100% coverage)</li> <li>c) standard #3 - low spreading shrubs from minimum 2 <sup>3</sup>/<sub>4</sub> " liners (70% coverage)</li> </ul>	
	d) standard #4 - trees and large shrubs from minimum 1 gallon (1/200 square feet)	
	25. Slopes between 4' and 8' in vertical height have standard #1, #2, #3 above.	IV E.3-1
	26. Slopes 3' or less in vertical height and adjacent to public walks or streets have standard #1.	IV E.3-1

#### **IRRIGATION**

YES N/A	General Design	SECTION
	1. Water flow velocities in pipe at 5' per second or less.	IV B.3-9
	2. Pressure deferential within circuits less than 20%.	IV B.3-8
	3. Minimize over spray.	IV B.3-10 IV C.3-5
	4. Check valves to prevent low head drainage.	IV B.3-13
	5. Designed to utilize reclaimed water (current or future).	IV C.3-5
	6. Irrigation circuits organized into "hydro zones."	IV C.3-5
	<ol> <li>Head spacing 50% of diameter in turf and in non-turf areas when using stream sprays, rotors, or impact heads.</li> </ol>	IV C.3-5
	8. Trees in lawn areas have "deep watering device."	IV C.3-5
	9. Irrigation in medians. (Refer to Section D.4-3.7.)	IV D.4-3
	<ol> <li>Irrigation in medians - submitted irrigation equipment list to Parks and Recreation Department and have received approval.</li> </ol>	IV D.4-3
	<ol> <li>All areas required to be planted under section IV E.3-1 have permanent automatic irrigation systems.</li> </ol>	IV E.3-2
	12. Separate circuits top, bottom and middle of slopes.	IV E.3-2
	13. The irrigation follows the approved "Fire Suppression Plan" where applicable.	IV F.3-1 IV F.3-2

YES	N/A

#### Point of Connection / Back Flow Prevention

- 1. Separate meter for landscaping (except residential projects under 4 units).
- 2. Backflow preventers per code.
- 3. Pipe between meter and backflow preventer "Schedule K Hard Copper."

YES	N/A

#### **Pressure Regulators**

1. Pressure regulators when over 80 psi.

SECTION
IV B.3-8

SECTION

IV C.3-5

IV B.3-2

IV B.3-2

YES	N/A

#### Controllers

1. Automatic controllers with dual or multiple program/multiple cycle start capacity.

SECTION
IV B.3-4 IV C.3-5



#### APPENDIX H

(cont)

YES	N/A

#### Valves

	SECTION
1. Ball valves installed for "zone control."	IV B.3-5
2. Quick coupling valves every 100 feet.	IV B.3-6
3. "Pressure regulating type" remote control valves when over 60 psi.	IV B.3-7
4. Serviceable check valves where elevation differential may cause low head drainage.	IV C.3-5

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YES	N/A

1. All pipe below grade (18" cover on main, 12" cover on laterals.)

5. "Master control valve" on slopes over 50,000 square feet in area.

- 2. PVC mains Class 315 (2" or larger or Schedule 40 ( $1\frac{1}{2}$ " or smaller).
- 3. PVC lateral Class 200 (except for 1/2").
- 4. Labeled or colored pipe to denote reclaimed water use.
- 5. Sleeves under improvements (Sch. 80 under roads at 30"; Sch. 40 other than under roads at 18" cover) 2 times the line size.
- 6. Thrust blocks on mains at direction changes.

#### Heads

YES	N/A

- 1. Pop ups within 10' of pedestrian uses.
- 2. Precipitation rate of heads not to exceed .5" per hour (slopes 25' in horizontal distance or less) or 1.4" per hour (slopes 25' or greater).

#### Miscellaneous



- 1. Risers over 12" above grade staked.
- 2. Controller wire sleeved under improvements.
- 3. Model Home "Xeriscape Model" where applicable.
- 4. Rain shut off device.

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IV E.3-2

#### IV B.3-3

#### IV C.3-5

#### IV B.3-12

#### IV B.3-13

#### SECTION

#### IV B.3-11

#### IV E.3-2

IV	/ B	.3.	-11	
		_		

**SECTION** 

#### IV B.3-12

#### IV C.3-1

#### IV C.3-5



# YES N/A

#### **CONCRETE / FOUNTAINS**

1.	Concrete in medians conform to requirements in Section IV D.4-3.
2.	Fountains recycle water.

3. Fountains designed to utilize reclaimed water.

SECTION
IV D.4-3
IV C.3-6
IV C.3-6

PLAN PREPARER:		 	
COMPANY NAME: _		 	
DATE:			